FEBRUARY, 1955

Traffic Engineering

Aerial View of a Highway Interchange

Courtesy of Standard Oil of New Jersey

- What's Happening Downtown?
- Better Traffic in Syria
- Small Towns Need Traffic Engineers, Too
- The Use of Federal-Aid Funds in Bond Retirement

Official Publication of the Institute of Traffic Engineers

Now Available

1953 PROCEEDINGS

Reprints of the 18 Papers Presented at the 24th Annual Meeting
Hotel Statler, Buffalo, New York

September 28th — October 1, 1953

CONTENTS

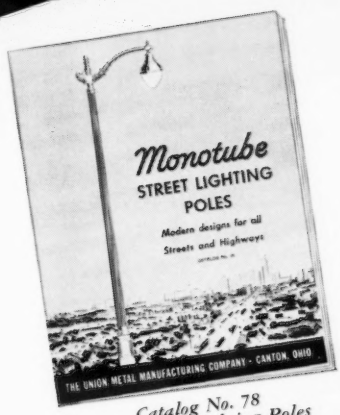
NEW YORK STATE THRUWAY AND STATE HIGHWAY PROJECTS — B. A. Lefeve
BUFFALO URBAN HIGHWAY PROJECTS — Charles R. Waters
ERIE COUNTY EXPRESSWAY PLAN — H. Dale Bossert
BUFFALO'S PRESENT AND FUTURE PARKWAY SYSTEM — A. Russell Tryon
BUFFALO'S PARKING GARAGES — Welles V. Moot
REDEVELOPMENT AND TRAFFIC — William H. Claire
SHOPPING CENTERS — Lloyd B. Reid
PARKING AND ITS IMPORTANCE TO THE DOWNTOWN BUSINESS DISTRICT — Henry K. Evans
TRANSIT DEVELOPMENTS IN TORONTO — W. E. P. Duncan
TRAFFIC CHARACTERISTICS OF TOLL HIGHWAYS — Edmund R. Ricker
DRIVER CHARACTERISTICS AND HIGHWAY OPERATIONS — T. W. Forbes
THE PENNSYLVANIA TURNPIKE JOINT SAFETY RESEARCH PROJECT — P. K. Eckhardt
SIGN ERECTION TECHNIQUES AND MAINTENANCE — Roger T. Chandler
EFFECT OF LIMITED-ACCESS HIGHWAYS ON PROPERTY AND BUSINESS VALUES — Richard M. Zettel
THE FIELD OF MODERN INTERCONNECTED TRAFFIC CONTROL SIGNALS — Henry A. Haugh, Jr.
LIGHT AND NIGHT TRAFFIC ACCIDENTS — David M. Baldwin
TRAFFIC CONTROLS IN THE VICINITY OF SCHOOL ZONES — Lawrence Lawton
PUBLIC OPINION SURVEY METHODS AS RELATED TO CERTAIN PHASES OF TRAFFIC ENGINEERING — John E. Baerwald

$1.50 PER COPY

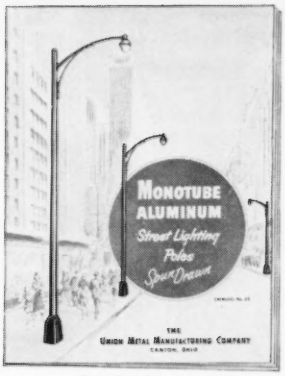
We still have some copies of the Proceedings for past years on hand,
at greatly reduced prices.

1952 Edition	$1.25
1951 Edition	1.00
1950 Edition	.75
1949 Edition	Out of Print
1948 Edition	.50
1947 Edition	.50
1946 Edition	.50
1945 Edition	.50
1944 Edition	Out of Print
1943 Edition	.50
Set of 1943, 45, 46, 47, 48, 50, 51 and 52 Issues	$3.00 per Set

INSTITUTE OF TRAFFIC ENGINEERS
Strathcona Hall
New Haven 11, Connecticut

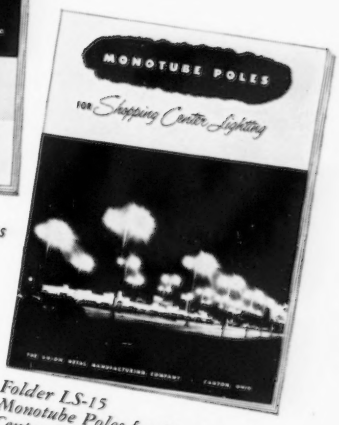


Catalog No. 78
Steel Street Lighting Poles



Catalog No. 85
Aluminum Street Lighting Poles

Catalog No. 82
Steel Brackets and Mast Arms



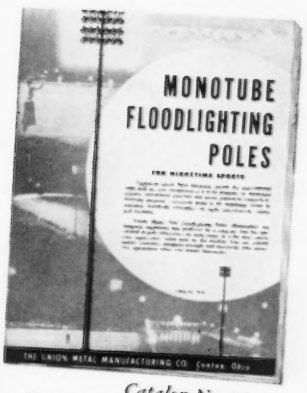
Folder LS-15
Monotube Poles for Shopping Center Lighting

AVAILABLE NOW...

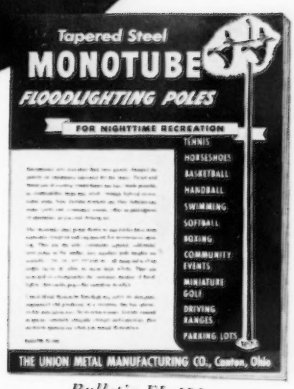
for your modernization and expansion plans

Check these MONOTUBE POLE catalogs

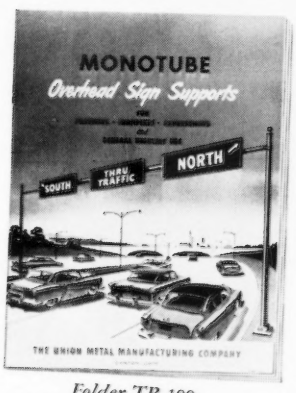
Check the items you want on the handy coupon below and mail it today . . . or write to The Union Metal Manufacturing Company, Canton 5, Ohio.



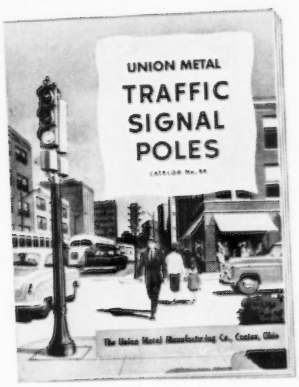
Catalog No. 76-A
Monotube Floodlighting Poles



Bulletin FL-102
Floodlighting Poles for Nighttime Recreation



Folder TR-100
Overhead Sign Supports



Catalog No. 84
Traffic Signal Poles

The Union Metal Manufacturing Company
Canton 5, Ohio

Please send me the following:

☐ No. 78 ☐ No. 85 ☐ No. 82 ☐ LS-15
☐ No. 76-A ☐ FL-102 ☐ No. 84 ☐ TR-100

Name_____ Title_____

Affiliated With_____

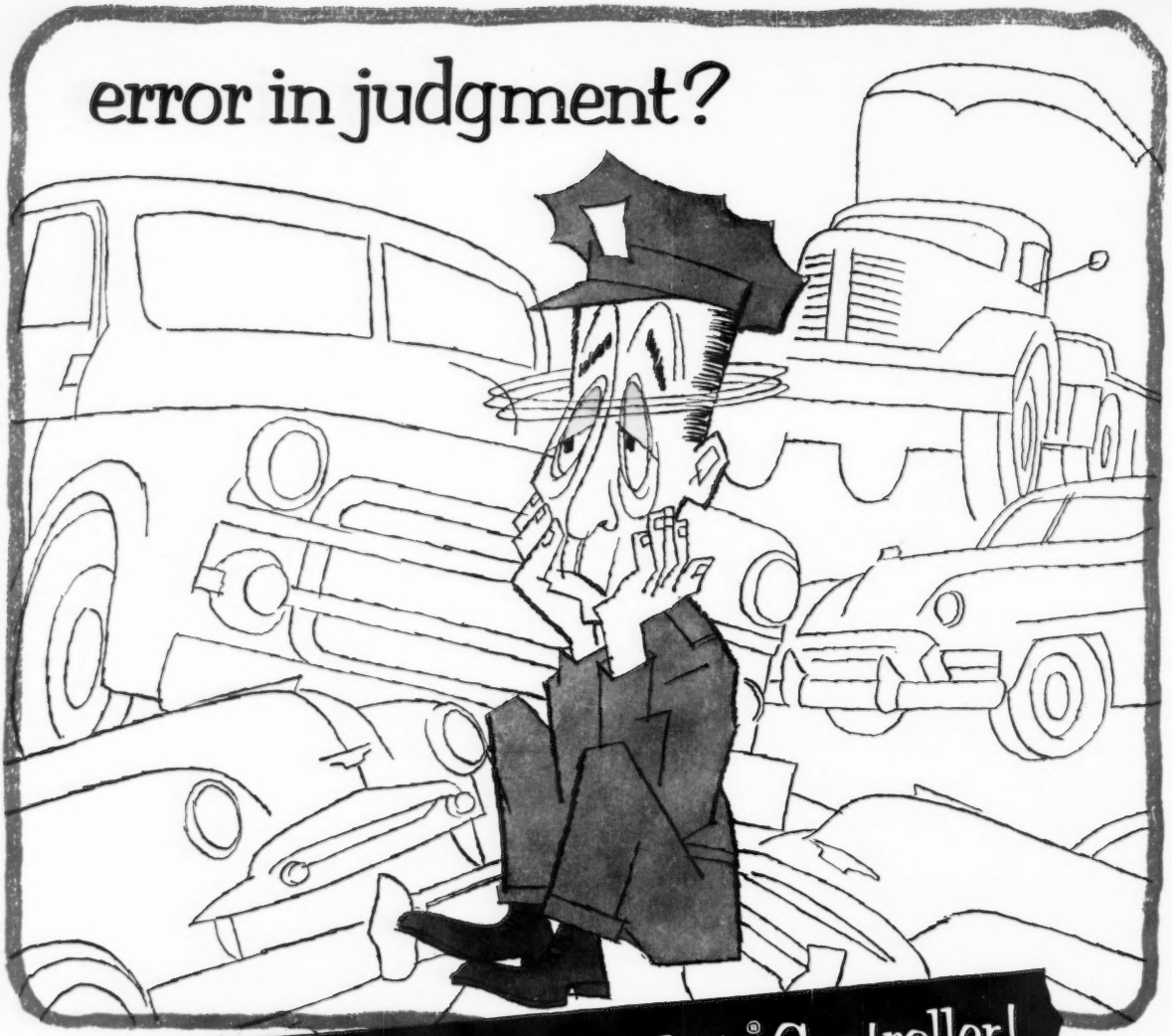
Address_____

City_____ Zone____ State_____

UNION METAL

Monotube Poles

error in judgment?



...not with an Electro-Matic® Controller!

It's a nerve-wracking experience, even for top flight traffic cops, to cope with today's traffic. Yet these "unsung heroes" have worked wonders particularly where antiquated signal controls couldn't do the same job. However, with today's unpredictable traffic volumes, errors in judgment are simply the result of human limitations.

Compare the situation with an Electro-Matic Controller on the job. With a super-human electronic brain, and without a jangling nerve in its body, the Electro-Matic calmly controls traffic with amazing results. *More* traffic is moved *faster* . . . without errors. *For technical assistance, please write outlining your specific problems. Complete new catalog on request.*

TRAFFIC ACTUATED ®

AUTOMATIC SIGNAL
DIVISION
EASTERN INDUSTRIES, INC.
NORWALK • CONNECTICUT

Traffic Engineering

OFFICIAL PUBLICATION OF THE INSTITUTE OF TRAFFIC ENGINEERS

VOLUME 25 FEBRUARY, 1955 NUMBER 5

PUBLICATION STAFF

M. MANSFIELD TODD
Editor

TED SIEGEL
Managing Editor

Associate Technical Editor
MARTIN C. STARK

Associate Editors
H. A. BARNES
C. C. CLARK
M. V. GREER
J. T. HANNA
A. F. MALO
C. C. ROBINSON

INSTITUTE OFFICERS

HARRY PORTER, JR.
President

CHARLES W. PRISK
Vice-President

J. CARL McMONAGLE
Vice-President

THOMAS J. SEBURN
Secretary-Treasurer

DIRECTORS

KARL A. BEVINS
District Number 5

JOSEPH E. HAVENNER
District Number 6

ROBERT S. HOLMES
District Number 2

ALGER F. MALO
District Number 3

MATTHEW C. SIELSKI
District Number 4

EDWARD G. WETZEL
District Number 1

DONALD M. McNEIL
Immediate Past President

PRESS OF INTERSTATE
PLAINFIELD, N. J.

In This Issue

What's Happening Downtown 181
Donald C. Hyde, Harold F. Hammond, Wilbur S. Smith

Better Traffic in Syria 184
Samy H. Abboud

Small Towns Need Traffic Engineers, Too 187
Vernon Kupel

The Use of Federal-Aid Funds in Bond Retirement 191
William D. Hart

Traffic News 194

Obituary 196

Report of January Meeting of Board of Direction 198

Letters to the Editor 199

Looking Ahead 200

New Appointments 200

Section News 202

Sustaining Organizations 204

Yearbook Changes 206

On the Shelf 206

New Members and Transfers 207

Membership Applications 210

Index to Advertisers 210

COVER: We wonder if the shades of the highway engineering textbook writers of 30 years ago would ever again rest easily after viewing this picture. How many, like the Editor, are old enough to remember the surveying maxims of that day which prohibited any crossing requiring a structure at other than right angles, ruled out any and all structural changes of grade and absolutely precluded consideration of the preposterous thought that a structure might have curving alignment. This interesting interchange, believed to be located somewhere in the general vicinity of New York City was graciously furnished by the Standard Oil Company of New Jersey two or three years ago.

DEFINITION: Traffic Engineering is that phase of engineering which deals with the planning and geometric design of streets, highways, and abutting lands, and with traffic operation thereon, as their use is related to the safe, convenient, and economic transportation of persons and goods.

Published Monthly by the

Institute of Traffic Engineers

INCORPORATED

PUBLICATION office:
Interstate Printing Corp.
400 Watchung Avenue
Plainfield, New Jersey

EDITORIAL AND ADVERTISING offices:
Strathcona Hall
New Haven 11, Connecticut

Entered as second-class matter November 7, 1941, at the Post Office at Plainfield, New Jersey, under Act of March 3, 1879. ¶Single copies 40 cents, subscription price $3.50 per year in the United States; $4.75 per year to foreign countries. Other publications of the **Institute of Traffic Engineers** include Annual Proceedings, Traffic Engineering Handbook and Technical Bulletins.

¶**The Institute is not responsible for any statements made or opinions expressed in its publications. Publication of advertising does not constitute Institute approval or endorsement of the products or services advertised.** Permission to reprint contents with customary credit line is given unless otherwise stated.

How to BOOST REVENUE on parking lots

...with Dual's new "automatic attendant"

REVENUE losses add up *big* on metered parking lots, and even on streets, when motorists park "free" on left-over meter time. But Dual now offers the *simple* answer . . .

Note the indicator flag on the meter shown. It doesn't *tell* how much time is left. It shows only "Legal Parking" (as pictured) or "Violation". Each new parker must pay in full for the time he wants . . . or risk violation!

Simple, foolproof and *effective!* What's more, this new feature *doesn't cost a cent extra* on new Dual Automatics . . . and only a nominal charge for converting previously installed Duals. No need at all to install and maintain costly, complex time-wipe-off devices.

Get complete information. Write *The Dual Parking Meter Company* (subsidiary of The Union Metal Manufacturing Co.), *Canton 2, Ohio.*

For extra value get **DUAL**
PARKING METERS

Frankly Speaking

TRAFFIC CONGESTION is the greatest single obstacle to the efficient operation of our cities. It imposes inconvenience, hazards, and loss of time and money on all citizens. The basic character of such causative factors as the changing patterns of community development and traffic movement, and the enormous expansion of motor vehicle use, make it difficult to cure. The most frequently suggested remedy is the construction of new expressway-type arteries, but most cities cannot afford to buy that kind of medicine.

The traffic engineer must find practical measures to eliminate some of the worst aspects of congestion without burdening the cities and their citizens with impossible construction expenditures. This can be done by considering the basic needs of traffic to determine to what extent these needs can be met through the application of tested traffic engineering methods and controls to the street plant as it is, or with minor modifications.

We know that motor vehicles require two fundamental conditions in order that they may perform their function of delivering people, goods, and services to specific destinations with convenience and safety. These two fundamental requirements are: (1) channels for free movement from origin to destination; and (2) terminal space for loading, unloading, and parking.

Congestion, particularly in the central business district where it is most severe, results from the lack of the benefits afforded by these two basically necessary types of facilities. In the case of channels for free movement, this lack is more often due to the inefficient use of the existing streets than to an actual inadequacy of the streets themselves. Adequate terminal space, on the other hand, is a definite quantitative lack which can be rectified only through additions to or substitutes for the space already available.

We also know that the fundamental reason for congestion is not so often over-all excessive volumes of traffic, as improper and incomplete utilization of the streets, and the resulting confusion in the movement of traffic. Streets in the central business district, for instance, are primarily for the use of pedestrians and of the vehicular traffic that actually has business in the downtown area. But these streets usually carry considerable traffic passing through the district to other destinations, and they are, in addition, generally badly misused by their own proper traffic.

The initial step in establishing orderly movement in the central business district is to make it unnecessary for through traffic to traverse its main thoroughfares. This can be done by creating free-flowing one-way peripheral arteries which will not only accommodate the through traffic movement, but give vehicles bound for the downtown area access to off-street parking facilities at the edge of the district. The second step is the creation of such ample off-street parking space, close to the peripheral arteries, within easy walking distance of all parts of the shopping area so that curb parking will be significantly decreased.

These measures—control of parking practices and the establishment of directional street operation — are the most potent traffic engineering devices for improving the functional efficiency of traffic movement on existing streets. There are two others which are less effective but still important: the prohibition of turning movements, and the correct signalization of major arteries to produce progressive traffic flow. But one-way operation renders the first of these unnecessary, and the second infinitely easier and more effective.

Traffic engineering methods do not ordinarily make the same appeal to our universal pride in big accomplishments as do proposals for extensive street-widening operations or for the construction of metropolitan expressway projects. But they can, when skillfully applied, secure an increased and more orderly movement of traffic on a normally developed and maintained system of existing arteries.

City officials responsible for streets and street transportation should make sure that they know the facts about their traffic problems. They should know that ambitious construction projects are not necessarily the only answer to those problems. Suggested remedies that are manifestly impracticable can very easily lead to the conclusion that no solution is possible.

The improvement provided by traffic engineering measures will not result in completely adequate traffic accommodation in all cases. But in most cities the betterment that can be brought about would be marked, and in many of them it should be sufficient to meet the needs of the community for a long period of years.

The policy of economy in the accomplishment of desired results is strictly in accord with the basic principles of good government and good engineering. It should be applied at once and continuously to the rapidly worsening conditions which are being created by the increasing volumes and importance of urban traffic.

Vice-President

STIMSONITE SIGNS for every traffic need!

STIMSONITE reflectors

Even the smallest STIMSONITE signal is quickly and easily identified by motorists . . . despite glare from oncoming headlights.

from these tiny delineators . . .

to the largest of traffic signs . . .

Workmen erecting the largest reflectorized traffic sign on the New York State Thruway. This sign is legible from more than a third of a mile.

show up better from all angles

Moderate first cost . . . low maintenance cost . . . long life . permanently sealed reflectors . . . more intense return beam . . . effective, wet or dry.

Radar speed signs on Virginia state highways.

Directional signs on Florida state roads.

Easy-to-use STIMSONITE embossed, cut-out letters eliminate the need for costly sign production equipment.

STIMSONITE® *for* *Seeability* *Readability* *Durability*

AGA DIVISION

ELASTIC STOP NUT CORPORATION OF AMERICA

1027 NEWARK AVENUE, ELIZABETH 3, NEW JERSEY

What's Happening Downtown?

By Donald C. Hyde
Harold F. Hammond (Mem., ITE)
Wilbur S. Smith (Mem., ITE)

In a series of television presentations over a period of years, the Georgetown University Forum has discussed a great many questions of national public interest. Recently the topic was: "What's Happening Downtown?" To answer this absorbing question, this program invited three men with intimate, first-hand knowledge of the battle America's cities are waging against the disintegration of their downtown business districts. The guests were Mr. Harold F. Hammond, of Washington, D. C., manager of the Transportation and Communication Department of the Chamber of Commerce of the United States, and a past president of the Institute of Traffic Engineers; Mr. Wilbur S. Smith, of New Haven, Connecticut, associate director of the Bureau of Highway Traffic at Yale University and also a past president of the Institute of Traffic Engineers, and Mr. Donald C. Hyde, general manager of the Cleveland Transit System, who is president of the American Transit Association.

The following summary of this presentation was prepared from the transcript of the program, which was handled by the Dumont TV network and some 70 radio stations. A kinescope film is available for local showings. The thoughts expressed by all three speakers, plus questions by the moderator and announcer, have been consolidated into this interesting feature for our readers.—EDITOR.

Panel moderator Matthew Warren looks over the shoulder of Harold F. Hammond of the U. S. Chamber of Commerce as they prepare for a recent live telecast of the Georgetown University Forum in Washington, D. C. The other two panelists are Wilbur S. Smith of the Yale Bureau of Highway Traffic and Donald C. Hyde of the Cleveland Transit System.

WHAT *IS* HAPPENING DOWNTOWN?

If two words make a sufficiently brief answer, they would be: "Not enough." By that it is meant not enough of the concentrated commerce that created downtown in the first place. Downtown is losing its competitive position with businesses in the suburbs and outlying areas of our cities.

Growth of our metropolitan areas, the widespread move to the suburbs, makes it understandable that some business should be lost by downtown. But the real villain is traffic congestion. Downtown streets are so clogged with automobiles that fewer people are willing to brave today's traffic jams. This is so despite downtown's obvious advantages—wider choice of goods, opportunity for price and quality comparisons, and the opportunity, also, to combine shopping with other business and entertainment objectives.

This is a national problem, in the sense that it extends all over the country, in smaller communities as well as the larger cities. But it's one national problem that can't be solved from Washington. Each community is going to have to work out its own solution. The situation is so serious that it threatens to alter completely urban life as we have known it in the United States.

Traffic congestion is what keeps shoppers away from downtown, and easier parking lures them to the suburban shopping centers, although with time, even suburban shopper parking gets scarce. But shoppers who use transit are finding it equally obnoxious to undergo the time-consuming, nerve-jangling rigors of downtown traffic. Bear in mind that most shoppers are women. They do 70 per cent or more of the buying in our country.

There's nothing particularly technical about this situation. In the tremendous post-war shift from public to private transportation, we are losing our ability to attract the crowds so vital to the large-volume, mass-market operation on which downtown depends. Our downtown problem is due to neglect of a vital phase of urban efficiency, without which the rest cannot function; namely, freedom of access.

Access means, simply, the free and easy movement of people and goods. Not vehicles, not automobiles, not trucks, not street cars, not buses, not taxicabs, but people and merchandise. Since World War II, we have expended too much effort and money trying to move and park vehicles, and not enough on the movement of people. Downtown today is more and more crowded with automobiles, and less and less crowded with people. Vehicles, per se, buy nothing. It's crowds of people who make downtown values. When downtown doesn't attract people, harmful effects extend beyond the boundaries of downtown—throughout our urban economy.

The community economy is affected in many ways. When traffic chokes off trade downtown, the strangulation hurts everyone in town. Traffic congestion does not end with the mere inconvenience of people. It causes economic and physical decay of whole communities. The businessman suffers because customers have difficulty getting to his store. The industrialist's production schedules are hampered. The cost of transporting products increases. Everyone who buys anything pays more for it because of higher transportation costs. Everyone has a stake in downtown's well-being.

It's not merely a matter of civic pride—it's much more tangible a stake than civic pride. It's a real, solid financial stake. Downtown is where some 40 per cent of all working people in a city are employed. Downtown properties pay a substantial part of all real estate taxes in the city—about 30 per cent. What downtown gets back in the way of municipal services, is but a small fraction of the amount of taxes it pays. Any lowering of these taxes because of reduced values will be reflected in higher taxes for the home owner, because city services—education, police and fire protection, etc.—have to be continued. So the effect is that every home owner is partially subsidized by the central business district. Maintaining property values downtown is every citizen's concern.

This paradox of more cars but fewer shoppers downtown represents the phenomenal shift from public to private transportation. We are bound to have more vehicles and fewer people in a given limited area if everyone insists on driving to the heart of the city in his own car.

Motor vehicle registration, which was about 31 million right after World War II, has skyrocketed to some 59 million, an increase of about 90 per cent. Transit, in the same decade, has lost approximately 10 billion rides per year from its peak of more than 23 billion in a single year when gasoline and tire rationing minimized automobile use and transit was called upon to carry millions of workers to their war jobs.

It is estimated that by 1960 motor vehicle registration will be between 75 and 80 million. To get the full picture, it is important to note *where* these vehicles are used most. Since most of our people live in and around cities, nearly 70 per cent of all automobiles are owned by urban dwellers. Further aggravating the situation is the fact that city streets comprise less than 8 per cent of the nation's total highway mileage, yet carry two-thirds of all U. S. traffic.

The greater numbers of automobiles are reflected in continuing losses of passengers by transit. While all business is hard hit, transit is the principal victim of this scourge of the 20th century which we call traffic congestion. Transit is losing riders so steadily that in many commuities it's a question of whether the transit system can survive the *kind* of competition it gets from the private car.

The fact that the private car deprives transit of revenue it once had is only the obvious phase of the competition, although transit still continues to be regulated and taxed as a monopoly. What isn't so obvious—what isn't generally recognized—is that in the very process of competing with transit, the private cars making up our traffic congestion deteriorate transit's product—the ride. This individualized transportation slows down the transit ride and makes it unattractive to more and more passengers. As they abandon transit for private cars, the congestion is increased still more. It's a vicious cycle, which hamstrings transit, the traditional facility for moving millions to do the thousand and one things that must be done if our cities are to remain cities. Transit is prevented from competing adequately, from doing the good job it wants to do and should be enabled to do.

Cities and transit depend upon each other. They grew up together, and transit has been an important partner in the development of downtown districts all over the country. It was the advent of transit—beginning with the horse car—that enabled city dwellers to move out of the immediate neighborhood of their employment downtown. Speed has always been the foundation stone of transportation progress. As transit improved—through introduction of streetcars and subways, the elevated, and trolley coaches and buses, people were able to live still farther from their jobs. Even with as many automobiles as there are in use today, downtown cannot

exist without the many millions who use transit to get to the city's center. The revival of downtown and the survival of transit are so closely interwoven that what we have here is not merely a traffic congestion problem, but rather a compound problem—the problem of traffic congestion *and* transit.

Upwards of 10 billion dollars has been spent so far, just to improve our cities' streets, and many more millions has gone into parking facilities. As for results, our traffic jams bear unimpeachable witness that we still are far from solving the problem.

Nobody knows how much money would be required to make it possible for everyone who gets the notion to do so to jump into his car and drive downtown—and find a place to park. Estimates have been made that another 10 billion dollars might take care of today's traffic. But what of tomorrow's traffic? And what would the resulting drastic reshaping of our cities do to downtown and the compactness which is it's most valuable asset? Despite all the costly efforts so far, we find that the increased number of automobiles downtown is a primary factor in the widespread dispersal of business to outlying districts.

Decentralization must be stopped. It is unthinkable that the enormous, planned investment we have made in our cities—in buildings, in streets, in utilities, etc.—is going to have to be duplicated, at least in part, in suburb after suburb simply because we are failing to move people satisfactorily and conveniently into and out of our highly-centralized, strategically-located downtown districts.

Our experience has indicated that we can never provide all the space needed for growing autombile traffic downtown. The harder we try, and the more we spend—on widening streets originally built for horse-and-buggy traffic, and on demolishing buildings to make way for parking, and on constructing expressways and freeways to make it easier for motorists to drive downtown—the worse our traffic congestion becomes. These steps serve to attract still more automobiles into the central business district. It should be made clear that this is not to say that all effort to provide additional facilities for motor vehicles should be stopped. The point is that the urban transportation picture is out of balance; that our experience shows clearly that what we have been doing is like running on a treadmill. It's becoming increasingly clear that even in this great and rich country there are financial and physical limitations to what we can do to accommodate individualized transportation. We need a better balance between the use of private and public transportation—especially in congested downtown districts.

We cannot continue indefinitely to stretch our downtown streets or to provide new facilities endlessly, but what *can* we do? We can make better use of the facilities and the street space we have. Greater use of public transit is being recommended with increasing frequency by experts—traffic engineers, city officials, city planners—as the least expensive, immediately available facility for reducing the number of vehicles downtown. Simple arithmetic shows that by leaving automobiles outside the downtown area, by using transit—at the very least for the inner portion of travel to the city's center—we can make better use of existing street space. We can save billions now being spent to change those streets, and we can save downtown by preserving its compactness.

Studies show the average automobile downtown is occupied by 1.5 persons. A bus can carry 30 times as many. And a street car has the capacity to bring up to 50 times as many as the average automobile now transports. Obviously, these transit vehicles occupy much less street space in relation to the number of persons served. Moreover, when they discharge their passengers, they move on. They do not expect the city to provide them with choice, heart-of-the-city parking space at some ridiculously low rate like five cents per hour. By moving on, by not cluttering streets, and by not misusing overtaxed thoroughfares as garage, transit vehicles permit other vehicles—those having real business downtown—to go about their business more freely and more economically. The best way to illustrate the transit vehicles potential for reducing traffic congestion is to say that one transit vehicle can carry as many people as usually occupy a whole city block full of automobiles.

This is not meant to suggest that private cars have *no* place at all in our downtown districts. Of all the material possessions that make up the American way of life, of which we are all so proud, the automobile is by far the most highly treasured. And the transit industry is not so unrealistic as to think that people are going to change their habits completely—are going to abandon their cars and ride transit exclusively. By the same token, it is long past time for all of us, as taxpayers, to be equally realistic—to have a long, new, objective, unemotional, business-like look at the shameful waste and confusion resulting from efforts to make the private automobile our primary means of transportation in congested urban areas.

Transit carries all the way from 30 to 80 per cent of shoppers entering the downtown districts of our cities. In Atlanta, for example, it's just over 55 per cent; in Boston, it's 72 per cent. But people come downtown for other purposes, besides shopping. In Atlanta, for example, 50 per cent of downtown office workers use transit. Among retail employees in Atlanta, 67.6 per cent use transit. These figures are from studies that have been made quite recently. In the Boston study, some further breakdowns were made. They showed that the two most important age groups of shoppers patronizing the transit system were young people under the driving age and people over 50. The study also showed that 79 per cent of shoppers in the middle income brackets, and 87 per cent in the lowest income group, use transit.

Greater use of transit is good medicine. Our problem is to get the patient to take it. There have been consistent efforts to drive home the point that heavy traffic in front of a store is not necessarily good business; that greater use of transit is a tool cities can use—positively and constructively in their planning—to break up their traffic jams. Several publications have been issued on how to get better use out of existing streets and facilities, how to save on the high cost of new construction and reconstruction involved in trying to make room for an ever-growing number of cars.

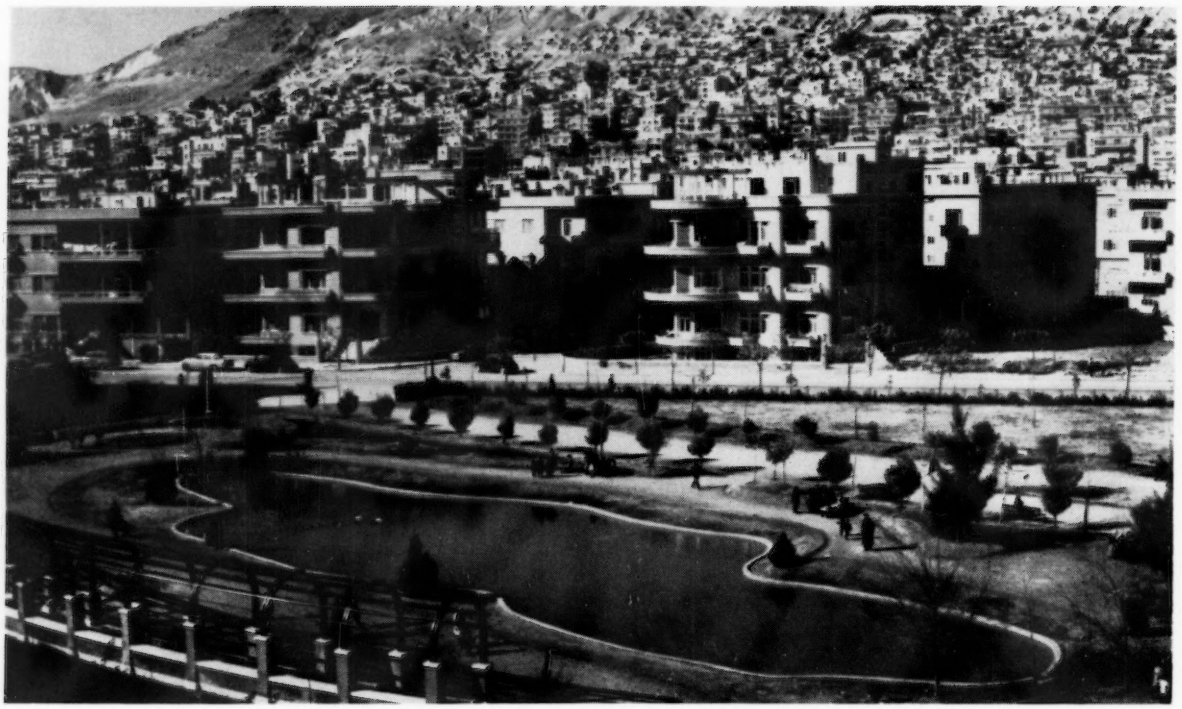
Off-street parking is very helpful, of course, especially if it is used *instead* and not in addition to, street parking. When off-street parking is provided, we don't always use it as a replacement for the street parking, which is such a fearful contributor to our traffic congestion. That's the big point—to get as many cars off the street as possible—to free lanes for the *movement* of traffic, to stop using them for the garaging of automobiles. And there's a limit to the amount of off-street parking that can be provided without altering downtown's compactness. To illustrate: Even if you tear down a quarter of the buildings in a square block—and what a wasteful thing *that* is in the high-value, center-city area—only about 70 cars can be accommodated. While

(Continued on page 186)

Better Traffic in Syria

By Samy H. Abboud (Writer)

Beirut, Lebanon



Ancient Damascus

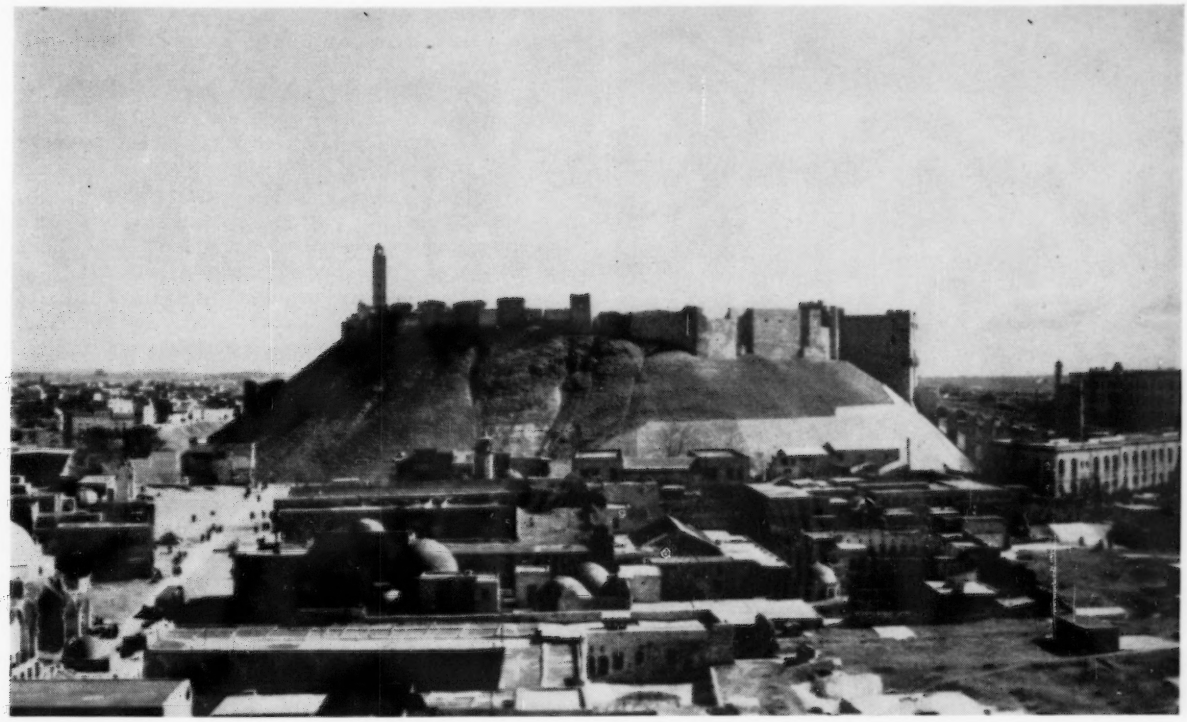
A UNIVERSAL COMPLAINT is repeatedly heard among city dwellers, both pedestrians and drivers, of that everyday problem: traffic. But probably the Middle East citizen has had the most reason to complain about various elements that obtrusively impeded traffic, arousing constant danger to life and limb, such as narrow streets, unsystematic drivers, bad walking habits and nerve-racking noise.

Many large cities of the Middle East have felt the need to take action. Unfortunately many have done no more than dabble with their own problem. Some cities continued importing new automobiles, issuing taxi and driving licenses, giving permits for the construction of new buildings along congested streets. These cities ignored the need of attacking the basic causes of congestion and poor driving. Probably Damascus holds the best record for reform as an outstanding example anywhere of providing new improvements in traffic conditions.

In the "oldest city in the world" traffic reform is the result of a determined and unswerving devotion to the ideals of modern traffic planning. During the last five years, a cadre of experts, both Syrian and foreign, eagerly cooperated together to study Syrian traffic problems. They have resolutely put into effect the lessons learned in countries where tested methods have been developed. The present Chief of Traffic Police is energetic Lt. Zahdi Gridy, a graduate of the Metropolitan Police Motor Driving School, Hendon, England, who has become an expert in educating the public in good traffic behavior. Lt. Gridy has already published two editions of his book "Traffic Guidance" (Dalil el Sayr) found in every local library, in which he gives instructions and enlightens drivers, pedestrians, bicycle and Arabian drivers on various new phases of traffic rules enforced and safety precautions taken. For example, the blowing of car horns is prohibited in the summer during the siesta hours. In his book, Lt. Gridy instructs the drivers to drive slowly during the siesta period; drivers neglecting this rule pay fines.

Traffic experts studied Syrian traffic problems thoroughly. Maps have been pondered upon, received careful study, and after approval, the municipality got to work. If you walk at random in many of the Damascus streets, you will notice how in various places workers are busy pulling down protruding old buildings, or enlarging narrow roads. Wider roads replaced narrow, curved ones. Blocks of old houses were demolished, to be replaced by modern shops, office buildings, and apartments — giving more space for wider and straighter roads.

These roads are clean. They are wide and often have a "one way" sign. This insures a quicker flow and safer driving. The pavements are wide, often divided by malls decorated with newly planted trees. The pedestrian, therefore,



The Citadel at Ancient Aleppo

has a wide space to move freely in, safe from the rush of motorcars. Bridges across the storied Barada river have been widened. Others are under construction. Circular curves in middle of intersections, sometimes planted with lovely green grass, and at night illuminated by light, replace the traffic police. This gives the city a nicer look, gives the drivers a better flow for their traffic: somehow similar to the flow of water among natural protruding rocks, and gives the pedestrian an oasis of refuge while crossing wide intersections. The traffic police use red and green signs — a step for future electric control of traffic. The visitor to Damascus, formerly shocked at the deplorable street conditions, now finds that the city presents a quiet, orderly appearance, comparing favorably with the best organized cities of Europe.

Parking places have been established in key posts in Damascus. Private cars have ample space to park in, in sideway formations, so when the driver leaves, no obstruction blocks his exit. For quick services and personal comfort, taxi garages have been established all over the town. You only have to dial, give your address and the taxi comes to collect you. Fares are controlled by the authorities.

But the buses are the most used as bus transportation is essential to a grown commercial population. They are cheap (7½ P.S. per person) crisscross the town and even the suburbs. The terminals, near the famous Suk el Hamidyeh, near the Street Called Straight, have been well erected, to shelter the passengers from the sun and the rain. Gone are the days when one rushed, squeezing oneself to get a seat on a bus. You await your turn—a traffic police often looks out for the comfort of the masses by this strict, though often frigid, regulation. Bus services have rendered great comfort to the town. Rich and poor use it alike, as it has become a quick convenience—cheap and efficient and very clean. No bus is permitted to have an excess of passengers—no person may ride standing. Many stations have been marked in important intersections. You cannot talk to the driver and inspection is strict all along the various lines that connect all the fringes of the town with Suk el Hamidyeh.

Pedestrians in Damascus are enjoying a new phase of safety. Passageways are marked at busy intersections and threading between swerving cars is discouraged. Traffic police are careful to enforce the rules, and pedestrians became eager to follow instructions when they realized the safety involved by such a simple measure. School crossings receive special attention, with police supervision during the times of opening and closing of schools.

Now only one garage has been pooled off from all existing taxi garages. Passengers traveling to outside cities, such as Beirut, Homs, Aleppo or Lattakia call on one garage only. Each town has its own garage in the Syrian Capital. Therefore, the passenger will not suffer delay from absurd competition—he finds quick service as all passengers, to Beirut for example, call on the Beirut garage, cars are filled quicker and sent immediately on their destination: your comfort is thus assured.

Some phases of new traffic regulations: a — New one-way streets, b — safety: pedestrian passageways, c — driving offenders are dealt with severely and quickly. They pay a fine according to their offense.

It was a hard-fought campaign. Property owners many times held up rights to buildings which needed demolishing. There was the usual amount of human opposition, of course, in both pedestrians and drivers toward aligning themselves with the regulations necessary for the good of all. But the majority of the population were delighted by each progressive step. As a result of these new traffic rules and regulations, Syria is a safer place for pedestrians to live in and a safer place for the drivers to drive in.

Ruins at Palmyra — Circa 3000 B.C.

WHAT IS HAPPENING DOWNTOWN?

(Continued from page 183)

multi-story garages are helpful, they do bring on congestion in the traffic milling around to get into them. And again, we have to consider the effect of such structures on the physical characteristics of our downtown districts. To illustrate: to provide garage facilities for just the people working in an office building, would require another building of equal size. If we make every other building a parking garage, don't we destroy the very compact arrangement we're trying to preserve downtown?

Back to the matter of speed, which seems to be the goal of both the private automobile and of transit, we are not progressing in the matter of time saved. Not so long ago, an article in *Nation's Business*, the U. S. Chamber of Commerce magazine, related that 60 years ago, a horse-drawn vehicle normally could travel a ten-block route in downtown Los Angeles in 10 minutes. Recently, an automobile was clocked over the same route, now constantly jammed with motor vehicles. Time: 14 minutes. So, while we're hurrying more, we're not getting around downtown as fast, despite the fact that we have harnessed many more horses under the hoods of today's automobiles.

In relation to transit, some interesting estimates have been prepared of savings that could be made through increased speed. They cover a wide range. One estimate, for a fair-sized transit system, is that if it could speed up its operations by as little as one mile an hour, it could save a million dollars a year. Think of what that would mean, not only to the transit system, but in terms of the transit rider and the community as a whole. It would mean stabilization of fares and better service. It would enable the transit system to offer a more attractive ride. The patent economy of transit over driving and parking costs would induce many to return to public transportation and help correct the imbalance that has been discussed earlier. On the basis of 1.5 persons now occupying a private car, for every three people we can get back on transit, we would be taking two cars off the streets. The express service which transit lines are initiating on a wide scale would have real meaning if the express ride no longer were all but invalidated as the transit vehicle nears the city's center, as is the case today. A faster ride would also stimulate fringe parking, thus keeping still more cars out of downtown.

To help transit achieve greater speed, the first thing that comes to mind is to do away with all parking at the curb, at least during rush hours, on major thoroughfares, particularly those used by transit. It also may be necessary to reserve the curb lane on some streets for the exclusive use of transit. A second very helpful solution downtown is to control both left and right turns better, so as to eliminate conflicts with pedestrian movements. Then, too, as we consider expanded use of freeways or expressways, we should make appropriate provision for the operation of high speed transit service, such as is now being done on the Los Angeles Freeways with buses and on the Congress Street Expressway in Chicago with center mall rail operation. Traffic signals can be timed to speed up transit on major transit streets. Ample space should be provided for transit vehicle loading, and truck loading, too, out of the stream of traffic. One-way streets are a big help, where conditions dictate their use. And we can't overlook the tremendous help that more staggering of hours would give. There are innumerable specifics. But they should be precisely that in each case, tailor-made for each situation.

Most important of all, probably, is public understanding and cooperation. Only when city officials and enforcement agencies have the backing of community leaders and the public do we achieve the improvements necessary to relieve traffic congestion. There is considerable literature available to any community whose citizens manifest enough interest in trying to help themselves. One of the most recent publications is the U. S. Chamber of Commerce brochure: "How to Get the Most Out of Our Streets." There is another book every city official, Chamber of Commerce officer, businessman, and community thought leader would do well to read. It's title is: "The City Fights Back," and it contains a wealth of information on how communities can help themselves—including and especially with regard to traffic congestion.

In addition to literature, there is also available to any city that wants it the unbiased advice of experts who can help resolve differences that are bound to arise among the many elements in any community. Individual traffic and planning engineers are available, of course, but in addition, the Urban Land Institute of Washington, D. C., an independent, nonprofit organization, offers impartial counsel to citizens' committees seeking it.

Finally, the individual citizen can do a great deal toward alleviating traffic congestion. He should get interested—he should understand the problem, by studying it realistically and logically, not emotionally. He should get his friends and neighbors interested; initiate cooperative community action through a group organized from a cross-section of citizens. Together, they should insist that city officials face up to the facts, obtain impartial advice, and act for the greatest good of the greatest number.

Small Towns Need Traffic Engineers, Too

By Vernon Kupel (Jun. Mem., ITE)

Engineer, Bureau of Traffic, Illinois Division of Highways, Carbondale, Illinois

PROBLEMS THAT ARE PRESENTED to a Traffic Engineer are, for the most part, in cities with population figures running from 50,000 to somewhere in the millions. There is no doubt that these problems are very acute and the Traffic Engineering Profession is doing a commendable job of easing cities' traffic woes. One reads in newspapers and trade journals about the tremendous volume of traffic that is being handled on a certain highway or intersection or of new parking facilities that can park several hundred cars at a time. One reads of the great masses of people that are moved daily from home to work and back again by mass transportation methods. Cities like New York, Chicago, St. Louis, Los Angeles and many others have scores of well-trained personnel trying to work out solutions to complicated traffic problems. But this is only a part of the problem confronting the public and Traffic Engineers today.

What about the cities, towns and villages, that have population figures in the 50 to 15,000 bracket. These locations may not be incorporated or even have a name but they do have traffic problems — that are relatively just as acute as those encountered in the more heavily populated areas. They have volume problems: their streets were designed and built to move 20 horse and buggy rigs, 30 cows and 14 pigs, in a day. They have problems of speed: "People passing through our town won't even slow down to see what it looks like!" They have problems in mass transportation: transporting rural school children to and from centrally located consolidated schools and traveling from one small town to another for basketball and football games. They have problems in enforcement: generally these smaller towns cannot afford to employ sufficient full-time police officers to enforce what traffic controls have been put into effect. Yes, they definitely have a problem and in many cases these conditions have been neglected too long. To them the automobile is a monster that has invaded their peaceful village and does nothing except break the peace.

What's the approach? The same that is being offered in our larger cities and metropolitan areas. Basically the problems are the same but only on a much smaller scale. In all cases we are dealing with people, gasoline powered vehicles, narrow streets and other adverse conditions. Only the quantity is changed when comparing the smaller cities to the larger ones. Also, the problem is a relative one. There has been a tremendous increase in the number of vehicles using our highways and streets since World War II. This increase is felt greatly in all areas. In Pomona, Ill., where only 100 cars a day passed through town before the war, today there are 1,000. This ten-fold increase is felt just as keenly in this village of 200 as is the increase in St. Louis or Peoria. Increase in volume, speed, induced hazard and inadequate facilities are the problems facing the Traffic Engineer dealing with small towns as well as large ones.

As an example, let us take a small city of about 10,000 population located in the heart of a farming area. This city has two main streets that are also State highways, one extending in a north and south direction and the other in an east and west direction. It has perhaps 50 miles of city streets, some paved and some unpaved. There is one business area located in the center of town and all the rest is residential area.

Fig. 1
Stop sign used at location where there is little cross traffic, tending to create disrespect for all controls.

There are, we'll say, four grade schools, one Junior High School and one High School. Four-way stops have been put into effect on all four corners of each school to protect the school children. However, little notice has been given to the other intersections that most of the children have to cross to get to their homes.

Let us assume that two or three small industrial plants are located on the edge of town, with narrow streets leading to the business area. Traffic is heavy on these streets and at times quite fast. So fast, in fact, that the local residents have petitioned their Alderman for four-way stops at various locations to "slow down these speed demons."

Such a town always has many other narrow streets, 20 to 36 feet wide, with parking allowed on both sides and prohibited in only a few locations. Sidewalks are perhaps 5 to 10 feet wide in the business area with the business houses built next to the sidewalk. Large turning radii at intersections were never heard of when the curbs were built, so a maximum radius of about 5 feet was used. In other words, the whole town was laid out in the early 1900's and designed and built for conditions as they were then. This town might also have a police force of two or three men for each of the day and night shifts.

We have, then, a typical small town of which there are perhaps thousands in the United States. It's a busy town with almost every family owning a car. If the father doesn't drive it to work every day the mother uses it to taxi the children to school or to carry the supply of groceries home or

Fig. 2
Back log of vehicles caused by delay at four-way stop location that should be signalized.

run the many errands found necessary for our way of life. Over a period of years, with increased purchases of automobiles and haphazard traffic controls, the people in this town, without knowing it, have bound themselves up on these narrow, slow moving streets and are slowly choking to death on their own exhaust fumes.

The seed of concern was germinated one night, we'll say, when an employee of one of the factories had to make seven stops on his way home. He suddenly realized that each time he stopped there was no car or truck on the intersecting street. It came to his mind, "Why should I have to stop?" The seed was watered heavily when he went to "town" on the following Saturday to get a haircut and a pair of shoes. First of all he couldn't find a parking place right away. When he did, the bumper of his car became hooked on the car ahead during the parking maneuver. Because of the narrow streets, he had traffic blocked for 10 minutes while he got it unhooked. He began to be conscious of traffic conditions and the fact that something was wrong.

He attended a City Council meeting and complained about conditions. This started the ball rolling, very slowly at first, but with increasing momentum. Over a period of several months people started talking about conditions, the newspaper wrote editorials about the "appalling" conditions and finally the Council authorized the Street Committee to contact someone to help them with their problems. Since the city was financially unable to hire a consulting Traffic Engineer, they contacted the State Traffic Department who had men qualified to give the assistance needed by the city.

Here is where the first "E" of the 3E's in Traffic Engineering came into play — Engineering. There had to be a complete survey made of the city's facilities, including a complete inventory of street lengths and widths, volume counts, pedestrian movement counts, traffic approach speeds, turning movements at many intersections and other pertinent data that might be needed for an overall picture. Parking habits had to be studied, as well as obedience to present controls.

After the survey was well underway it became obvious that certain changes would have to be made. Now in a small town you just don't go out and make radical changes in the lifelong habits of people — it would be like having a wild bull by the tail. The second of the 3E's enters the picture at this point — Education. The Traffic Engineer must slowly start the educational part of the program.

Fig. 3
Traffic trapped by parking maneuver on narrow two-way street.

For example, let us say the street through the main business area had only sufficient width for two moving lanes of traffic and two parking lanes. Traffic volumes were such that when a motorist wished to park, the very act of backing into a parking stall tied up his lane of traffic. Also, volume counts showed that four moving lanes were needed to handle the vehicles to the best advantage. Since the business houses were built so close to the street, a widening project was out of the question as being too costly. The next best solution would be to eliminate parking on both sides of the street for those blocks that needed the additional space. This action would make it necessary to provide off-street parking facilities in these blocks.

The first hurdle would be the City Council itself. They would have to be convinced that off-street parking is the best solution for efficient handling of traffic. Businessmen would have to be convinced that the only solution immedi-

Fig. 4
Effective method of traffic control for small towns having limited budgets.

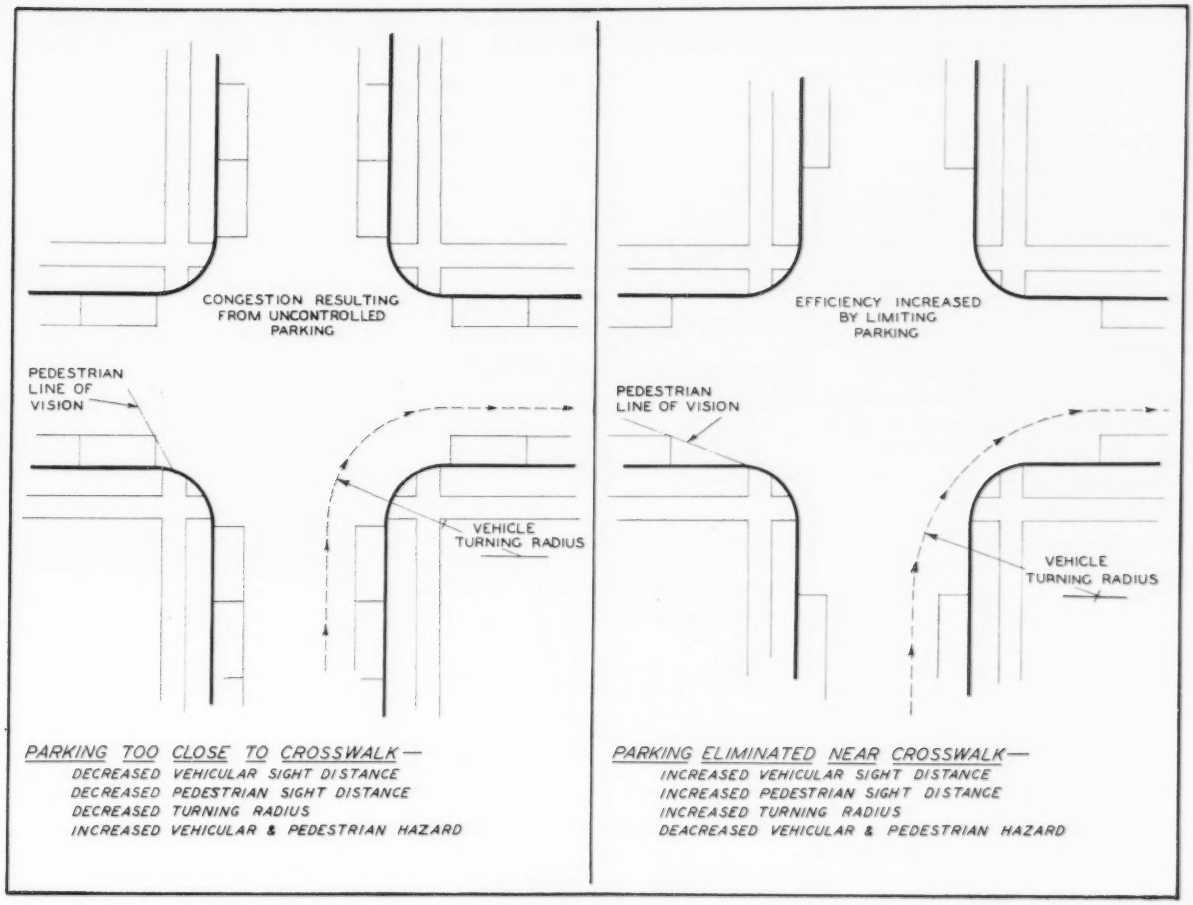

CONGESTION RESULTING FROM UNCONTROLLED PARKING
EFFICIENCY INCREASED BY LIMITING PARKING
PEDESTRIAN LINE OF VISION
VEHICLE TURNING RADIUS
PEDESTRIAN LINE OF VISION
VEHICLE TURNING RADIUS
PARKING TOO CLOSE TO CROSSWALK—
DECREASED VEHICULAR SIGHT DISTANCE
DECREASED PEDESTRIAN SIGHT DISTANCE
DECREASED TURNING RADIUS
INCREASED VEHICULAR & PEDESTRIAN HAZARD
PARKING ELIMINATED NEAR CROSSWALK—
INCREASED VEHICULAR SIGHT DISTANCE
INCREASED PEDESTRIAN SIGHT DISTANCE
INCREASED TURNING RADIUS
DEACREASED VEHICULAR & PEDESTRIAN HAZARD

Fig. 5

Elimination of parking near cross walks accomplished the dual purpose of increasing sight distance across the corners and making a larger turning radius possible.

ately available would not cause them to close their doors because of no parking stalls in front of their stores. Civic Clubs and the motorists themselves might object to such a plan. It may even have to be brought to a vote within the community itself to instigate an off-street parking program. However, if this is the only solution, and in many cases in small towns it is, then parking lots should be provided and parking eliminated where necessary.

Parking will probably be one of the two items causing the most difficulty for the Traffic Engineer in trying to relieve congestion and increase the efficiency of present street facilities. The other will most likely be the isolated four-way stop controls.

The four-way stop at intersections is a control that has been abused in the past and will continue to be abused until all motorists are educated to the modern concept of four-way stop control. At certain intersections, where conditions warrant, the four-way stop is a satisfactory type of control. However, at many of our small town intersections of local streets, it has been put into effect to control speed, where, with proper enforcement, a lower type of control would have been the better approach. On the other hand, four-way stops can be inadequate for handling some intersections and it will be found necessary to go to a higher type of control to approach the practical capacity of the intersection. As in the example, in many small towns where two major highways intersect, it may be found that traffic signals are justified by reason of the amount of traffic handled. Generally, without some financial help, small towns are unable to install traffic signals when needed and so must rely on lesser types of control — the four-way stops. All controls, however, must be based on usage or needs of the traffic pattern and never on the whim of personal desire.

Getting back again to the town in the example, the crowded streets in the residential area can be relieved by the prohibition of parking on one side to provide for two-way traffic at all times. Once again, however, the corrective measures should be determined by an engineering study of what is needed in the way of street facilities. Intersections that have small turning radii can be opened up by the elimination of parking within a certain distance from the cross walk and by cutting back the curb line, thus providing a greater turn-in radius. All controls in effect prior to the entrance of the Traffic Engineer must be thoroughly investigated and those found to be unjustified should be removed and proper controls put into effect.

Once the Engineering and Educational programs are well underway the third "E"—Enforcement—enters the picture. It should be backed up with proper legislation and should be on a firm and fair basis. People, in general, will obey

without question a reasonable control. If obedience falls below a certain level, then the control may be in the unreasonable class and should be investigated.

The hardest part of the job of the Traffic Engineer will come when the overall plan is offered to the city for action. Even though he has been requested by authorized officials to investigate and make recommendations, there is still a question as to whether or not they will be put into effect. Opposition will be met in these small towns, as well as in the larger ones, but due to the very makeup of the people, traffic control is on a more personal basis. So, here too, the plan must be sold and, in most cases, to the general public as well as to city officials. The resident of the larger town is more accustomed to changes being made in his everyday life but the people in the smaller towns, even though they have lived with these outmoded conditions, are very reluctant to change unless they can definitely see that it will be to their advantage.

Here, then, is another challenge to the Traffic Engineer equal in scope to the solving of traffic problems in the larger cities. The facilities in these small towns are used by vacationers, traveling businessmen and local residents. Some are visitors spending only a few minutes or several hours in town. Others live there the year around. If they are going to use modern methods of transportation, then it's up to the Traffic Engineer to bring modern methods of handling traffic to these people. Engineers may scoff at problems presented by conditions in the smaller town since volume figures do not run into the thousands per day. Nevertheless they are just as serious as the problems presented in our larger municipalities if we are to have free moving traffic everywhere.

Perhaps the answer is more elaborate Traffic Departments in our State Highway Divisions. From a central point, traffic problems for many towns can be worked out through an organization that has access to the latest and best methods of handling traffic. There would be a tendency toward more uniform controls offered for similar problems in various towns.

Let us, then, include these small towns and villages in the overall traffic picture. The obligation is there, and the problem is as badly in need of solution as is the problem found in our larger cities.

Please Mention

TRAFFIC ENGINEERING

When Writing Advertisers

Announcing
The Ametron
ELECTRIC EYE TRAFICOUNTER
—Automatically counts vehicles whenever photo electric beams are broken!
—Ruggedly constructed for permanent, year-round operation—in any weather!
—Prints totals each hour and resets to zero!
—Identifies counts with printed record of exact hour—day or night!
A new vehicle counting and recording instrument which fulfills exacting requirements in installations where conventional roadbed type detecting elements are not desired. A permanent station type, capable of counting up to 1000 pulses per minute. The magnetic counter is solenoid advanced, once for each contact closure (whenever there is an interruption in the light field). Consists of following detector components: two Photocell Excitor Lamps, a transformer for stepping down power supply voltage, a "chopper" to provide light field oscillating characteristics, a lens and mirror assembly, and an amplifier.
STANDARD OF ACCURACY SINCE 1888
STREETER-AMET COMPANY
4101 RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS
Branches in
Pittsburgh and Allentown, Pa.
Birmingham, Ala.
Bethesda, Maryland
Toronto, Ontario
E. A. Horton Sales Co.
3071 Bloor Street, West
RECORDER HOUSING
LIGHT SOURCE HOUSING

The Use of Federal-Aid Funds in Bond Retirement

Prepared by William D. Hart, Statistical Analyst

National Highway Users Conference, Washington

An NHUC Research Report

One of the suggestions advanced in connection with the President's proposal for an accelerated highway program has been Federal assistance to the states in the issuance of bonds. This report deals with an existing provision for using Federal-aid funds in repayment of state bonds, under authority provided by the Federal-Aid Highway Act of 1950.

POST-WAR PROGRAMS to improve the nation's highways have caused an increasing use of bond financing. Bond issues of $1,832 million in 1953 and $1,922 million in 1954 are $500 million and $800 million greater, respectively, than the 1952 issues. Highway debt outstanding at the end of 1954 is expected to approach the $9 billion mark, an increase of $1.5 billion over 1953 and slightly more than $3.0 billion over 1952, according to the U. S. Bureau of Public Roads.

About half of the total outstanding bonds at the end of 1954 will be revenue bonds, in most cases secured solely by future earnings of the facility through tolls. The remaining $4.5 billion consists of both general obligation bonds to be retired from the general funds of the states and limited obligation bonds to be amortized through revenues from special taxes levied for the purpose or by dedication of portions of existing highway use taxes.

Of the several methods employed in bond amortization, perhaps the most little used is that created by Section 5 of the Federal-Aid Highway Act of 1950. As an incentive to the states to hasten the modernization of the Federal-aid systems, Congress provided that:

> "Any State, county, city or other political sub-division that shall issue bonds and use the proceeds of such bonds for the construction of toll-free facilities in order to accelerate the improvement of the National System of Interstate Highways, the Federal-aid primary highway system or the Federal-aid highway system in urban areas, may apply any portion of the funds herein, or hereafter, authorized on said systems of highways and apportioned to such State under the provisions of Section 1 to aid in retirement of annual maturities of the principal indebtedness of such bonds to the extent that the proceeds of such bonds are actually expended in the construction of said system of highways: Provided, That payment of Federal funds on the principal indebtedness of such bonds shall be made only on account of any such facility that is constructed in accordance with plans and specifications approved in advance of construction by the Commissioner of Public Roads: Provided, further, That payment of Federal funds pursuant to this section shall not exceed the pro-rata basis authorized by Section 1: And provided further, That payments to any State pursuant to this section shall be made exclusively from apportionments to such State from funds authorized by the Congress to be apportioned for expenditures on said systems of highways and this section shall not be construed as a commitment or obligation on the part of the United States to provide such funds."

All projects to be financed in the manner prescribed by Section 5 are approved, inspected and handled the same as any other Federal-aid project, except that Federal payments for work done are not made as the work progresses or upon completion of the projects.

Federal funds may be claimed as reimbursement in connection with the retirement of annual maturities of serial bonds.[1] For term bonds,[2] however, Federal reimbursement may be claimed only upon actual retirement of the bonds, since Federal funds are not eligible for payment into sinking funds created and maintained for the subsequent retirement of bonds.[3]

It should be noted that Section 5 has no application to the Federal-aid secondary system.

As of October 1, 1954, only three states—Michigan, Oregon and Washington—have made use of the provisions of this section. A fourth state, New Hampshire, has one project under consideration for which no Federal funds have as yet been committed. The total cost of the 172 current projects is $116,587,314, of which the Federal portion amounts to $63,288,230. A total of 621.6 miles of roads and streets is involved.

Table I provides the complete state-by-state summary.

---

[1] With serial bonds, a predetermined amount of the principal is scheduled to be paid each year, beginning at a certain time after the bonds are sold. This plan of retirement requires no sinking fund; payments usually being made from current revenues.

[2] The so-called term bonds are those for which the entire amount borrowed falls due at a date fixed when the debt is assumed. A sinking fund is provided into which annual payments of a fixed amount are paid. These payments, plus revenue from investment of the paid-in amounts, should be sufficient to pay the entire amount when the debt falls due.

[3] Bureau of Public Roads General Administrative Memorandum No. 339, October 15, 1951.

TABLE I

SUMMARY OF BOND PROJECTS

Initiated pursuant to Sec. 5 of the Federal-aid Highway Act of 1950

As of October 1, 1954

State	Class of funds	Character of work	No. of projects	Total cost	Federal funds	Miles
Michigan	Urban	Expressway	44	$28,331,210	$14,083,655	6.7
New Hampshire	Urban	By-pass	1	5,400.000	[1]	3.1
Oregon	Primary	Rural	93	64,515,131	39,208,375	496.4
Washington	Primary	Rural	32	17,477,210	9,536,000	114.4
Washington	Urban	Urban	2	863,763	460,200	1.0
Total			172	$116,587,314	$63,288,230	621.6

[1] Federal fund amount to be determined later.

Michigan

An outstanding example of the utilization of the provisions of Section 5 is being demostrated in the financing of Detroit's expressway system. This system, at present consisting of the John C. Lodge and Edsel Ford Expressways, is 23 miles long and is partly financed by an $80 million bond issue. These urban expressways are on the interstate system.

By terms of a 1944 contract between the Michigan State Highway Department, Wayne County Road Commission, and the City of Detroit, the State Highway Department was to furnish up to $3 million annually, Wayne County and the City of Detroit, $1.5 million each and the estimated amount of available Federal-aid funds at $4 million. It should be noted that by State law (Sec. 250.31, Compiled Laws of Michigan, 1948) cities of over 50,000 population share the cost of State trunkline construction on a 50-50 basis with the State Highway Department. Also, by State law (Sec. 250.41, Compiled Laws of Michigan, 1948) counties may assume all or any part of a city's obligation. In this case, Wayne County elected to assume 50 per cent of Detroit's obligation.

The bonds were issued under the Michigan Revenue Bond Plan and are 25 year, 2.125 per cent obligations. They are secured in part by dedicated portions of the income from state motor vehicle and gasoline taxes (Public Act No. 22, Acts of 1950).

Annual yearly funds pledged to retire the bonds and pay the interest thereon amount to $5 million, or well within the limits of the 1944 contract.

So effective has been this plan in accelerating Detroit's Expressway plans that it is reported that two other cities, Grand Rapids and Monroe, are being considered for similar projects.

There are currently 44 projects on the Detroit expressway system. The total cost of the projects is $28,331,210, or at an average of about $4,250,000 per mile for the 6.7 miles under construction. The Federal share amounts to $14,083,655, which will come from Federal-aid urban highway funds.

New Hampshire

The Nashua By-pass has been listed as the one project in New Hampshire. The 3.1 mile, $5,400,000 highway is to be a Federal-aid urban project although no Federal funds have been committed. There seems to be some question as to whether or not the State is going to use bond proceeds for its matching funds.

Oregon

There are currently 93 projects underway involving $39,208,375 in Federal-aid primary funds out of the total cost of $64,515,131. The mileage of these projects totals 496.4 miles concentrated on the interstate routes and a few other more heavily traveled highways.

By the use of this method of financing, the State Highway Department has estimated that, within three years, it will complete half of its immediate needs program. The 1951 legislature authorized a $40 million bond issue to accelerate the program.

Washington

In Washington, some 32 projects involving principally the improvement of U. S. 99 are underway. The 114.4 miles are being constructed at a total cost of $17,477,210 with $9,536,000 coming from Federal-aid primary highway funds. Two urban projects costing $863,763 are listed, with the Federal share being $460,200. Both are structures.

The bonds are not general obligations of the State but are to be serviced from charges against the fuel tax revenues, pursuant to Chapter 2, Laws of 1951.

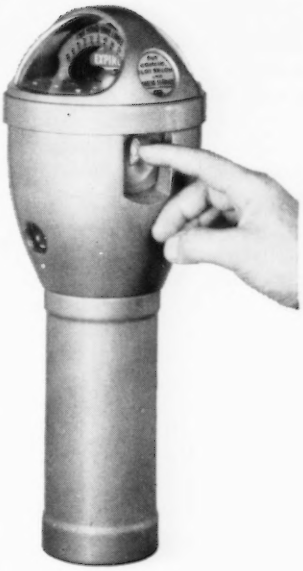
The somewhat unique participation of the Federal Government permitted by Section 5 of the 1950 Federal-aid Act in the amortization of state highway bond issues prompts inquiries into its opportunities and limitations. The experience as detailed above may be of value at this particular time when various proposals are being advanced for greater Federal assistance to the states in financing highway improvement programs.

ITE Membership Nearing 1,000

The Institute of Traffic Engineers has grown from an organization of 19 traffic engineers who assembled one evening in Pittsburgh in October 1930 to a present membership of 828. Predictions have been made that by the time the 25th annual meeting held held in Pittsburgh in 1955 the membership will reach 1,000.

From AAMVA Bulletin

THE BIG 3



1 DUNCAN-MILLER

2 DUNCAN-Automaton

3 The DUNCAN-MILLER "60"

by

THE WORLD'S LEADER IN PARKING METERS

1 For over 17 successful years, the DUNCAN-MILLER manual parking meter has been predominantly first in public acceptance and dependability.

2 Fully automatic to both the municipality and motorist, the DUNCAN-AUTOMATON possesses modern advantages superior to any automatic parking meter on the market.

3 Modern ideas in functional design have been combined with exclusive features previously introduced in universally acclaimed Duncan built products to make the DUNCAN-MILLER "60" the finest parking meter ever produced.

Our traffic specialists will be glad to counsel with you.

+ Plus + an easier system for collecting overtime parking fines...

DUNCAN FINE-O-METER

DUNCAN PARKING METER CORP.

835 N. WOOD ST., CHICAGO 22, ILL. • FACTORIES: HARRISON, ARK. and MONTREAL, P.Q., CANADA

Manufacturers of fully automatic and manual parking meters.

TRAFFIC NEWS

Toll Road Bond Market Active

An all-time record for toll road financing is seen for 1955 with scheduled financing during the first few months alone amounting to over three-fourths of a billion dollars. During all of 1954, similar financing amounted to over $1.5 billion.

The biggest single public offering *ever* is the $390 million bond issue being offered by the Illinois Toll Highway Commission which will build these roads. Connecticut will sell $100 million in bonds for the Greenwich-Killingly Expressway. Two potential issues are the $146 million Oklahoma Turnpike Authority bonds and the $58.5 million Texas Turnpike Authority offering for the Dallas-Fort Worth superhighway.

At least nine toll road agencies probably will offer bonds for sale in 1955. Seven others are studying toll road projects for financing and eight are not planning any financing in 1955.

A run-down of some of these projects indicates the status in the following states.

Kansas—Four new turnpike project study contracts have been let.

Nebraska—Feasibility and traffic studies have just been completed

New Jersey—61 miles of the New Jersey Turnpike will be widened from four to six lanes by fall; a $30 million bond issue has been offered.

North Carolina—A feasibility report for the North Carolina Turnpike Authority is in progress.

Ohio—A proposed second Ohio Turnpike (running North-South from Cincinnati to Conneaut) might cost some $450 million. About $840,000 is being spent on preliminary surveys. Engineering and Traffic Estimates are being considered by the Ohio Turnpike Commission and the State Highway Department.

Rhode Island—A feasibility report is being presented to the State Department of Public Works.

Texas—The Texas Turnpike Co. and the Sam Houston Turnpike (both independent Texas corporations) are negotiating on two separate toll road projects costing $150 million.

Virginia—The Richmond-Petersburg Turnpike Authority will probably offer between $60 and $75 millions in bonds sometime this summer or fall.

West Virginia—A tri-state traffic survey, agreed to by Virginia, North Carolina and West Virginia will study the feasibility of extending the existing West Virginia toll road to the Virginia line. Some discussion is also under way on a plan to link the West Virginia toll road to the Ohio and Pennsylvania Turnpikes.

Other states have bonds authorized for toll road projects including $250 million of the New York Thruway Authority. All in all, a record financing year seems ahead on the toll road scene.

HURD APPOINTED

The Committee on Transportation of Yale University on February 15th announced the appointment of Frederick William Hurd (Mem., ITE) as Director of the Bureau of Highway Traffic, effective that date. The appointment came right at press time so we must defer the full story until the next issue.

Size and Weight Violators Cannot Be Barred From Roads

The U. S. Supreme Court has held that, although the states can continue to regulate the weight and distribution of loads carried in interstate trucks, these trucks cannot be barred from the use of state roads as punishment for repeated violations of state highway regulations. The Court said, in effect, that conventional forms of punishment are adequate, and that resort to the Interstate Commerce Commission could protect a state's interest by revoking "in whole or in part certificates of motor carriers which willfully refuse to comply with any lawful regulation of the Commission."

Urge Broadening of Engineering Education

Engineering college graduates who try to isolate the engineering profession from both science and business are damaging the profession, says an article in the January issue of *Harper's Magazine*.

George S. Odiorne, head of the Management Services Section of Rutgers University, writes that it is the degree-holders who compose the influential societies, which in turn have a large influence on the engineering colleges.

He continues: "Unfortunately, it is from these men that the greatest pressure comes for the isolation of engineering from both science and business. Confident that the engineering curriculum is a thing of enduring and beautiful perfection, they attribute to the engineering graduate alone that set of mental habits called the 'engineering mind'—a tool so versatile and unique that it confers a virtual monopoly over logical processes to its possessor."

But when the young engineer tries to fit into the operation of a laboratory or factory, he finds adjustment difficult and he must begin a process of "unlearning," Odiorne says, adding:

"Idea by idea, he must clear his mind of 'pure' engineering in order to make way for such mundane considerations as cost, marketability, consumer foibles, company folklore, union contracts, and the personality quirks of the chief engineer—in short, all the finely tooled and delicately adjusted machinery that keeps society going. Often his work may consist of a 'project' in which he will have to communicate intelligently with other technicians, suppliers, customers, lawyers, advertisers, and other laymen. When he is incompetent to handle these relationships his efficiency suffers and all too often his training has given him little help."

Mr. Odiorne continues: "The need for engineers in the mid-twentieth century is not merely for more of them, but for more of them who can fit effectively into the non-engineering world. Attempts to force-feed the profession, or artificially to elevate its prestige, can only mean a progressive withdrawal by

engineers from society's going concern. Scorn, antipathy, or indifference before the demands of bargaining, persuasion, debate, and compromise will eventually result in a loss both of status and of voice for the very men on whom a technical civilization must heavily depend. Their need is for an ability to visualize the world in which they live—not as a collection of castes in which theirs alone is custodian of the public weal, but as a moving balance of interests that naturally conflict, intermingle, and change. They must undo the damage of an education which treats engineering as knowledge, and engineers as individuals, as though they could not be identified with the needs and aspirations of the rest of society."

The solution, Mr. Odiorne says, lies in broadening the engineer's education to include the humanities, arts, and social sciences. Numerous engineering schools have turned their efforts in this direction, by associating with colleges, and the engineering graduate receives two degrees at the end of five years—a Bachelor of both the Arts and Sciences, he adds.

Better use of the engineers we have is one way to cure the engineer shortage, he concludes.

Minnesota Highway Recommendations Proposed

The Minnesota Highway Interim Commission will propose a constitutional amendment creating a State Trunk Highway System, a County State-aid Highway System and a Municipal State-aid Street System. It would create a Highway User Tax Distribution Fund consisting of all motor vehicle and fuel taxes to be transferred to the following funds in the following proportions: 60 per cent to the state trunk highway fund; 33 per cent to the county state-aid highway fund; and 7 per cent to the municipal state-aid street fund.

AAMVA To Study Whole Reciprocity Question

An "exhaustive and complete research study of the entire problem of reciprocity" of commercial vehicles was voted by the American Association of Motor Vehicle Administrators at its recent meeting in Los Angeles. In presenting the committee report, which formed the basis of the action taken, Committee Chairman M. C. Connors, of Oklahoma, stated that reciprocity is at the crossroads.

New Highway Engineering Book Published

"Highway Engineering" by Laurence I. Hewes and Clarkson H. Oglesby, published by John Wiley & Sons is now available.

Covering both engineering design and construction practices, the book is balanced in favor of the former. The principles of each topic are developed first and current practice then explained in terms of these principles. Pertinent research findings and their implications are also included for each topic.

In the light of modern trends, the authors have given greater than usual attention to the questions of highway economy and finance, rights of way, drainage, and traffic engineering. The chapters on soils, bases, and pavements concentrate primarily on design techniques and the research findings that affect them.

The late Dr. Hewes, author of "American Highway Practice," an earlier Wiley publication, was Chief of the Western Headquarters of the U. S. Bureau of Public Roads. Professor Oglesby is with the department of Civil Engineering at Stanford University. A practicing engineer for many years, he was formerly with the Arizona Highway Department.

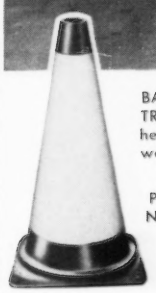
"Highway Engineering" contains 628 pages and is priced at $8.00.

Toll Road Activity In the States

The Oklahoma Turnpike Authority has filed three separate petitions with the State Supreme Court seeking approval of the issuance of $214 million worth of Turnpike Revenue Bonds for the construction of three new toll roads: (1) a connection with the Turner Turnpike to the state line near Wichita, Kansas; (2) a toll road between the state line near Wichita Falls, Texas and Oklahoma City; and (3) a toll road between Tulsa and the state line near Joplin, Missouri.

Ohio has opened the first twenty-two mile section of the 241-mile Northern Ohio Turnpike. It runs from the Pennsylvania border to a point west of Youngstown.

West Virginia has dedicated the remainder of its eighty-eight mile toll road. The first thirty-six mile section between Beckley and Princeton was opened in September.



BARRICADE TRAFFICONE
height: 28"
weight: 7½ lbs.

Patent No. 2333273

CHANNEL TRAFFICONE
height: 18"
weight: 2¾ lbs.

INTERSTATE RUBBER presents the TRAFFICONE SYSTEM of TRAFFIC CONTROL

WHY TRAFFICONE SYSTEM IS PREFERRED BY SAFETY MINDED TRAFFIC ENGINEERS

- 36-page Traffic Manual goes into every phase of traffic problems.
- Tested and approved through years of experience in the laboratory and in the field.
- Selected by traffic engineers for the toughest traffic control tests.
- Saves money by eliminating the rebuilding of old fashioned wood and wire markers.

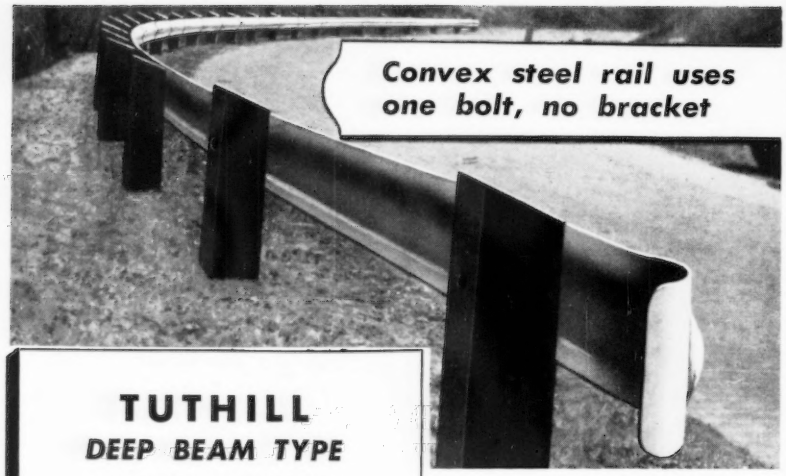
FACTS ABOUT TRAFFICONES

- Two sizes
  28" — Barricade
  18" — Channel
- Colors
  Red, yellow, black.
- Lightweight and portable.
- Lane channeling set up in one-tenth the time required with wooden and wire markers.
- Require minimum storage space.
- They stack.
- Will not break or become distorted.
- Require less man and motive power.
- Reflectorized for night operation.
- Flexible rubber.

Guide the Motorist . . .
don't confuse him

Please write for complete information on how to increase the effectiveness of your traffic controls. 36-page manual and colorful literature available.

INTERSTATE RUBBER PRODUCTS CORP.
908 Avila Street
Los Angeles, California



TUTHILL
DEEP BEAM TYPE
GUARD RAIL
cushions shock . . .
deflects cars safely

TUTHILL deep beam construction transmits impact to guard post, deflects and protects vehicle and occupants. Convex rail, secured to post with a single bolt, meets "deep beam" specifications . . . costs less to install, cuts maintenance. TUTHILL'S convex curve also gives highest visibility in darkness, rain or fog.

TUTHILL SPRING CO.

WRITE TODAY for complete brochure

760 WEST POLK STREET • CHICAGO 7, ILLINOIS

Dallas to Fort Worth Bonds Approved

Approval of a $58.5 million bond issue to build the first toll road in Texas between Dallas and Fort Worth was granted by the Texas Turnpike Authority. The Authority will issue $20 million of bonds dated April 1, 1955, and maturing January 1, 1978, and another $38.5 million to mature January 1, 1995. The bond issue will be submitted to the Texas Attorney General for approval as a prelude to a test case seeking supreme court approval on legality.

When the bonds are repaid, the road must be given to the state for operation as a freeway. The bonds are redeemable starting in 1962 and the project is expected to pay out in less than 20 years.

A lingering obstacle to the project is a dispute in Fort Worth over how far the toll road should extend into the city.

N. J. TP Adds Lanes

The New Jersey Turnpike Authority announces that 61 miles of the 118-mile turnpike will be widened from four to six lanes by autumn due to increased traffic. Traffic volumes on the superhighway are now approaching 1981 predictions and necessary improvements are estimated at $28 million (construction cost).

In addition to the widening, projects currently under way include a connecting extension to the Pennsylvania Turnpike and a Newark Bay-Hudson County extension.

The new widening will provide six lanes for an 83-mile stretch from the road's northern terminus (near the George Washington Bridge) to Camden. A 22-mile section already is six lanes as part of the original construction.

Murray Resigns As Undersecretary of Commerce for Transportation

The resignation of Robert B. Murray, Jr., as Undersecretary of Commerce for Transportation has been accepted by President Eisenhower. Mr. Murray told the President that he planned to return to private business. The resignation was accepted "with reluctance" by the President and its effective date was January 20, 1955.

OBITUARY

Howard F. Ilgner

Just before press time, word arrived at New Haven of the death of Howard F. Ilgner, long time Traffic Engineer and Superintendent of Electrical Services, City of Milwaukee, Wisconsin, on February 10th. He died in Milwaukee's Columbia Hospital after an illness that began in Washington, D. C., while attending the recent meetings of the Highway Research Board, from the effects of a rare and complicated type of virus infection.

Howard F. Ilgner

Mr. Ilgner served Milwaukee for more than 38 years as its first and only traffic engineer, joining the Bureau Electric Service when it was created November 9, 1916, at the conclusion of two years' work with the Consulting Engineers who planned and supervised the installation of the city's first electric street illumination system. He was an authority on street illumination, a field in which his work contributed to much of the pioneer development of present day recognized practice.

He lived all but seven of his 65 years of life in Milwaukee where he was born September 19, 1889. He was educated at the University of Wisconsin at Madison where he received his degree in Electrical Engineering in 1911, following which he spent 1½ years in Schenectady as a student engineer with General Electric Company. The next year and a half he was Electrical Distribution Engineer for the Eastern Michigan Power Company at Jackson, Michigan from whence he returned to his native city

(Continued on page 209)

KEEP AN EYE

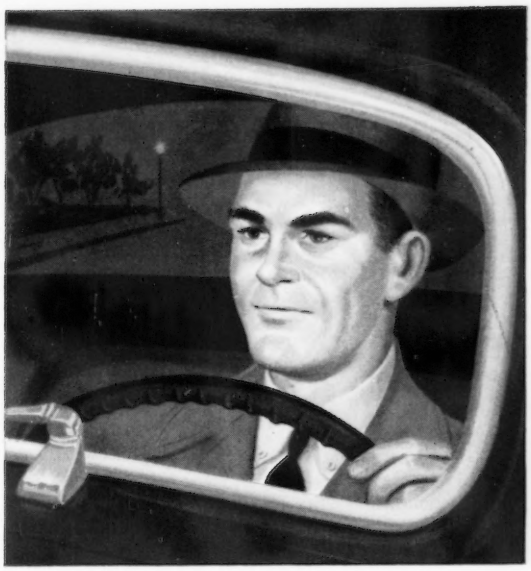
on these facts about

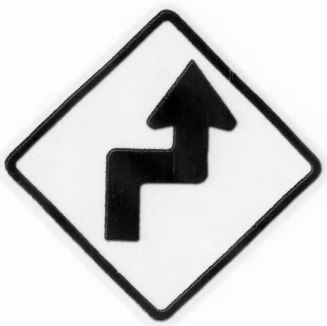
GROTELITE *reflective sheeting . . .*

AND YOU GIVE HIS EYES

maximum "sign-to-car" warning

Whether head lights are dimmed or bright, GROTELITE SS provides the extra measure of warning that can be so important! No other reflective sheeting offers such quick recognition . . . has such certain attention value regardless of surroundings. GROTELITE SS is seen quicker . . . can be read clearly at the greatest possible distance!





Grotelite REFLECTORIZED SIGNS

are seen farther, seen clearer . . . provide greatest margin of safety!

write today for details;

For the complete Grote line of reflectorized sheeting, reflectorized or enameled warning and regulatory signs, reflectors and accessories—send for Catalog No. 745-T.

Grotelite

GROTELITE SS Looks Good After Years of Service! Examinations of GROTELITE signs after years of service show that this highly durable reflective sheeting is still in excellent condition. Because it sheds water, self-cleans in the rain and withstands all extremes of temperature and humidity, these signs still retain their reflectivity . . . are good for many more years of effective service.

GROTELITE SS is available in sheets, precut to size with allowance for trim . . . you pay for no waste. Application is quickly and easily handled without the need for expensive equipment. Four colors: yellow, red, green, and silver (white).

THE **GROTE** MANUFACTURING COMPANY, INC. Established 1901 • Bellevue, Kentucky • Opposite Cincinnati

Report of January Meeting of Board of Direction

The Board of Direction of the ITE met in the Michigan Room of the Statler Hotel in Washington, D.C. at 1:30 P.M., January 14, 1955 with eight members present. Directors Havenner and Wetzel, because of other engagements were unable to attend. The Board worked just under six hours Friday and five hours on Saturday morning. Important actions taken (not arranged in order) include:

1. Adoption of a resolution of respect to the late Theodore M. Matson, Vice-President (appears elsewhere in this issue).

2. Appointed Secretary-Treasurer J. Carl McMonagle to fill the unexpired term as Vice President of the late T. M. Matson. Appointed Past President Thomas J. Seburn Secretary-Treasurer to fill unexpired term of J. C. McMonagle, resigned. Mr. Seburn accepted the appointment only on condition that he would not be required to serve after the next regular election of Officers.

3. Received from the Secretary-Treasurer the Auditor's report of financial operations during the calendar year of 1954, showing total revenue of $45,-641.46, total expenditures of $42,588.07, for a net gain from operations, of $3054.39. To this was added the value of desk and chair donated to the Headquarters Office by the Buffalo Local Arrangements Committee, amounting to $247.69, to swell the net worth of the Institute to $19,882.65 as of January 1, 1955.

4. Received report on arrangements made and the contract with Mr. S. T. Siegal whereby latter becomes Managing Editor of TRAFFIC ENGINEERING Magazine for trial period of six months.

5. Received report that the necessary dies for the new style small size lapel insignia pin, authorized at the last meeting, were being manufactured and that pins would probably be available within six weeks. The new screw-back pin, about one-third the size of a dime, will have gold letters ITE on a plain blue, round background, similar to the Rotarian's pin.

6. Adopted a budget for 1955 anticipating $51,000. of revenue from which $47,800. of expenditures are to be paid.

7. Invited the Cox & Stevens Division of Revere Corporation, Wallingford, Connecticut, and the Measurements and Industrial Productions Division of the General Electric Company, West Lynn, Massachusetts, to become SUSTAINING ORGANIZATIONS.

8. Directed the Executive Secretary to cancel the membership of members delinquent in 1954 dues who do not pay same by February 15th.

9. Approved the transfer of 14 Juniors to Associate, and of 7 Associates to Full Member. Elected to membership 22 Juniors, 14 Associates, 2 Full Members, and 3 Affiliates, thereby increasing the total membership to 861, less the half dozen or so individuals who do not pay their 1954 dues.

10. Adopted a statement of intention to move the national Headquarters Office to either Chicago or Washington by the Autumn of 1956 and directed its Committee of Directors to devise ways and means of best accomplishing this; also, to recommend the specific city, with reports to be submitted to the next meeting.

11. Adopted a proposed redesign of the Traffic Engineers' Award Plaque which Mr. Porter had caused to be made, whereby greater emphasis is ascribed to the words "Institute of Traffic Engineers" in the inscription appearing on the Plaque.

12. Received a report that the 1954 Annual Meeting at Kansas City had been financially successful and that the Local Arrangements Committee had paid to the Headquarters Office the sum of $324.00 at the rate of $1.00 per paid male registrant, as required by former Board policy.

13. Received from Past-President McNeil a verbal report on the plans for the 1955 Annual Meeting in Pittsburgh which have thus far been made.

14. With reference to the 1956 Annual Meeting in San Francisco, the Board approved appointment of the Steering Committee nominated by Western Section President J. Al Head. These include Ross Shoaf, Chairman; Jay Czizek, Don Berry, Bob Graver, Jerry O'Shea, James W. Meyer, George Webb, W. E. DeYoung, Bob Glenn, Al Head (Ex-Officio), and Dud Stevens.

Approved the dates of Monday, September 24, 1956 to Saturday, September 29, 1956 and authorized the Committee to select the three (or four) days of the week within these dates which will best accommodate the registrants and permit the use of Family Travel Plan rates. Definite recommendation from the Committee is required for the next Board meeting.

Adopted a resolution proposing amendment of the By-Laws, ARTICLE VI, Section 1, to permit Annual Meetings to be scheduled between August 15th and November 15th.

15. Rescinded its Annual Meeting policy adopted at the September meeting, whereby the District to which the Annual Meeting was allocated would *recommend* the host city. Adopted in lieu thereof a new policy reading "Cities within the District to which the Annual Meeting is allocated shall submit their invitations to a Site Selection Committee appointed by the Board."

16. Received a report that as of November 30, 1954, 6283 copies of the TRAFFIC ENGINEERING HANDBOOK had been distributed, from which the Institute has realized a profit of $2661.32.

17. Received reports from the Administrative and Technical Divisions and approved the Technical Council's recommendation that Committees 1-H, 2-C and 3-H be discharged and that a new Committee, 4-G, Warrants and Uses for Portable Traffic Signals, under the Chairmanship of Wayne N. Volk, be appointed. Other members of the Committee are W. H. Carsten, J. P. Gilbert, J. S. Saylor, and D. S. Terry, Jr.

18. Received a report from the Editor of the Traffic Engineer's Technical Notebook, advising that the Winter Supplement would be distributed in February or March, also that he has assigned the five Associate Editors the task of a complete review and revision to subdivide the Notebook into seven sections to accord with the new subdivision of the Technical Council.

19. Declined the invitation to accept participating membership in the International Science Foundation.

20. Directed President Porter to advise the Federal Communications Commission that the Institute of Traffic Engineers is aware of and supports the position recently taken by the AASHO, calling for revision of the regulations requiring that radar speed meters be licensed each year as experimental radio stations. This matter was brought to the attention of the Board by members M. V. Greer and J. L. Barker.

21. Directed the Executive Secretary to write the President of the Western Section of the Board's appreciation for the Section's invitation to meet jointly at the San Diego Annual Meeting of the Western Section. In view of the Institute meeting in San Francisco next year, the Board decided to forego a meeting on the West Coast at this time.

22. Scheduled the next Board meeting for June 10th and 11th, 1955, in Atlanta, Georgia.

T. J. SEBURN
Secretary-Treasurer

A Resolution

Adopted by the Board of Direction, January 14, 1955.

WHEREAS, on Wednesday, December fifteenth, nineteen hundred and fifty-four, there was taken from us our beloved friend and fellow associate,

THEODORE MALVIN MATSON

we, the members of the Board of Direction, INSTITUTE OF TRAFFIC ENGINEERS, on behalf of the entire membership, take this occasion to record our profound sorrow over the loss of one of the pioneers of our profession and the outstanding leader in the training of traffic engineers.

Mr. Matson was one of the founders of the Institute and served his chosen profession with distinction, loyalty and integrity throughout his long and active career. During this time he served as a Director from 1939 to 1941, and again from 1951 to 1953. In 1953 he was elected by unanimous choice of the membership as Secretary-Treasurer and Vice President in 1954, thus assuring his ultimate election to the high office of President of the Institute—a goal he would have deserved as a major achievement of his career.

Throughout his association with the profession and the Institute, he at all times exhibited the highest sense of responsibility, not only toward his associates on the Board of Direction, but also toward his hundreds of students and fellow members of the Institute. His interest in Institute affairs was active, sincere and inspirational.

Many of his characteristics endeared him to us—his humble dignity, his unfailing courtesy, his ready humor, his keen judgment and his sense of fair play. We have known him as an outstanding engineer, leader and affectionate friend, and shall ever hold in our hearts our rich memory of him.

We offer our deep sympathy to his family. Our great loss is but a shadow of their personal loss. To the best of our ability we paint in words in this resolution our picture of a great American and we now record that picture for all time in the records of our organization.

It is ordered that this Resolution be spread upon our minutes and that an engrossed copy be sent to Mrs. Matson.

Letters to the Editor

Sir:

I am enclosing herewith a tear-sheet from the December 1954 issue of TRAFFIC ENGINEERING containing the sentence "Traffic-actuation was first introduced in 1928 in New Haven, Conn." This, as we have repeatedly proved, is incorrect. Traffic-actuation was installed in daily public use at Glenarm, Maryland in 1921 and at a Baltimore street intersection on February 22, 1928; and both installations were made prior to the New Haven installation.

Why, in the name of fair play, is just recognition being denied me? In the name of truthful journalism, I shall be grateful if you will editorially correct this injustice.

CHARLES ADLER, JR.

Baltimore, Maryland
December 31, 1954

• The statement to which Inventor Adler (Affil., ITE) refers appeared on our Strictly Business pages of the December issue and was prepared by the Public Relations department of the Automatic Signal Division, Norwalk, Connecticut, manufacturers of the products described.

The matter of where and when traffic-actuated controls were first installed was discussed at length in TRAFFIC ENGINEERING five years ago. An article by Mr. Adler in the December 1949 issue stated that traffic signal actuated controls (for highway traffic) were first put into regular use on February 22, 1928 when the sound actuated control he had invented was turned on at Belvedere Avenue and Falls Road in Baltimore, Maryland; and that Henry A. Haugh's vehicle actuated control was publicly introduced April 10, 1928, at Orange and Humphrey Streets in New Haven, Connecticut. Letters from New Haven Traffic Engineer Edmund R. Ricker in the April 1950 issue, and Sales Manager Paul L. Green of the Automatic Signal Division in the June 1950 issue established the fact that while April 10, 1928 was the formal beginning of continuous operation of the New Haven control, the original installation for testing and demonstration at this same intersection had been first turned on November 2, 1927, and operated intermittently thereafter as the equipment was further developed and perfected.

Apparently, great minds ran in the same channels in this case as pioneer inventor Adler and Yale Professor Henry Haugh appear to have run pretty much of a dead heat in the development of the first highway traffic-actuated control for traffic signals. Certainly, the professional traffic engineer of today is well aware of the tremendous impact which the ideas of both of these gentlemen have had in the field of traffic control.

To recognize the 1921 Glenarm, Maryland highway railroad grade crossing protection signal as an example of highway traffic actuated signal control with which this controversy has been concerned would be unrealistic, as this was a railroad train actuated signal.

—Editor

* * *

Sir: We have an opening on our staff in Indonesia for a traffic engineer to act as consultant to the Indonesian Government in the preparation of a comprehensive plan for the orderly development of adequate traffic control facilities for the City of Djakarta.

This company has had continuing contracts with the Government of the Republic of Indonesia since January 1951 for furnishing consulting engineering services in many fields of activity. Our work has been under the sponsorship of the Foreign Operations Administration and predecessor agencies, and is frequently spoken of as being "Point 4" work.

For some time we have had two transportation specialists on our Indonesia staff who have, with the aid of Indonesian personnel, conducted surveys on present transportation facilities, routes and traffic characteristics and density. The surveys are fairly complete; cordon counts have been made observing movement of all pedestrians and passenger and commercial vehicles.

It is believed that from the data collected to date that a traffic engineer working in conjunction with the Indonesian authorities could devise in a moderate period of time a comprehensive plan for the orderly development of adequate traffic control facilities. It is preferred that this be done in cooperation with Indonesian personnel in order that

they may become familiar with methods used in this type of work and thus be able to carry on future planning independently.

Salary on this assignment will be substantial, generally somewhat in excess of 50 per cent over current salary in the United States. Travel expenses and reasonable living allowances will be paid. It is expected that the duration of the assignment will be about one year with the possibility of an extension for a longer period.

We would appreciate it if you would refer to us anyone in your organization whom you believe might be interested in and qualified for this assignment.

BRUCE BUCHANAN
Acting Manager
Dept. of Reports & Appraisals
The J. G. White Engineering Corporation
80 Broad Street
New York 4, N.Y.

Re: The Renaissance.

Dear Sir:

. . . I have also very favorably noticed the change in your recent issues of TRAFFIC ENGINEERING. Although I am indirectly a member of the traffic engineering profession, I would be quite interested to learn what other traffic engineers think of the "new" TRAFFIC ENGINEERING . . .

Sincerely yours,
FRANKLIN S. KELLY
Philadelphia, Penna.

LOOKING AHEAD

MARCH 2-4 — ATLANTIC CITY, NEW JERSEY
Annual Meeting Association of Highway Officials of The North Atlantic States, Traymore Hotel.

MARCH 14-17 — NEW ORLEANS, LOUISIANA
Annual Convention Associated General Contractors, Hotel Roosevelt.

MARCH 30-APRIL 2—KANSAS CITY, MISSOURI
Annual Meeting American Institute of Planners, Muehlebach Hotel.

OCTOBER 23 - 27 — PITTSBURGH, PENNSYLVANIA
Twenty-fifth Birthday Meeting — Institute of Traffic Engineers, William Penn Hotel.

New Appointments . . .

Groth Is New Richmond Public Safety Director

Captain William Loy (Bill) Groth, (Affiliate, ITE) veteran safety engineer of the Virginia Department of State Police, has been appointed director of the Department of Public Safety of Richmond, Va., his home city. The appointment, announced by City Manager Horace H. Edwards on January 5, was effective February 1.

In his new position, Director Groth will be responsible for operations of Richmond's Bureau of Traffic Engineering, Bureau of Police, Fire, Building Inspection, Weights and Measures, Electrical Inspection, and Air Pollution Control. Captain Groth, who is 47, was selected for the new job from a field of about 40 applicants.

A native of Ohio, where his father taught foreign languages at Ohio Northern University for a quarter of a century, Captain Groth attended the University of Richmond from 1928 to 1932 and joined the Virginia State Police force in 1934. He was promoted through the ranks from motorcycle patrolman to captain and safety engineer in 1942, in which position he has been in charge of the administration of the Governor's Highway Safety Committee, the State vehicle inspection program, approval of safety devices and equipment, accident records, the interdepartmental safety program, and public education programs.

Captain Groth was secretary of the Public Officials' Group of the White House Conference last year. For several years has been an instructor in the National Police Academy, conducted by the Federal Bureau of Investigation, and a lecturer at the Bureau of Highway Traffic, Yale University. He also serves as executive director of the Southern Safety Conference. He is past president of the Virginia Society of Safety Engineers; Past chairman, traffic section, National Safety Council, and is a consultant to the Eno Foundation. At college he was a member of Theta Chi Fraternity and president of the local chapter.

Bill's home is at 5013 Sylvan Road, Westover Hills, Richmond. He and his wife, Adeline, celebrated their 24th wedding anniversary on the day he was appointed to his new job. His pretty daughter, Angela Margaret, 20, is a senior pre-medical student at the University of Richmond, and will begin work toward her M.D. degree at the Medical College of Virginia next Fall. The household also includes an amiable Russian wolfhound named Mike. Bill's new office will be in the City Hall Annex, Richmond.

Bollen to HRB

Ray E. Bollen, testing engineer for the Nebraska Department of Roads and Irrigation, has been appointed as a staff engineer of the Highway Research Board, according to an announcement by the Board's director, Fred Burggraf.

Bollen will have the title "Engineer of Materials, Construction, and Maintenance," taking the position formerly held by Elmer M. Ward, now assistant director of the Highway Research Board. In this capacity, Bollen will visit with members of state highway departments, colleges and universities, and other research agencies, to discuss the status of highway research and new developments in this field. He will assist in formulating projects of an investigational nature and cooperate with various committees in solving highway problems. He will also assist in preparation of bibliographies, reports, and problem analyses for dissemination to highway technologists.

Bollen was graduated from the University of Nebraska in 1930 with the degree of bachelor of science in civil engineering. In 1939 the University of Nebraska granted him a master's degree in engineering mechanics.

He served with the Nebraska Department of Roads and Irrigation from 1930 to 1942 as assistant testing engineer and from 1942 until the present as testing engineer. He is a member of the American Society of Civil Engineers, American Concrete Institute, American Society for Testing Materials, and American Association of Asphalt Paving Technologists. He is a 25-year member of the American Association of State Highway Officials.

P&K

PIONEER producer of the
MODERN LOW-COST LIGHTING
STANDARD AND BRACKET

P & K specialization, engineering and plant facilities have for years been devoted to the problem of how to achieve better lighting at lower cost . . . for streets and highways . . . for parking and recreational areas . . . for traffic signals . . . for shopping centers.

WHEN YOU SEE:

- The seamless, tapered, high strength aluminum shaft . . .
- The patented, seamless elliptical all-aluminum arm . . .
- The strong, non-deteriorating "Aircomatic" weld . . .
- The clean, modern scroll-less bracket design . . .
- The smooth-surfaced, strong grain transformer, shoe and pedestal bases . . .
- The numerous shaft diameters and arm mounting heights . . .

YOU KNOW:

This is a P & K contribution to modern lighting at far lower cost. You know, too, that P & K costs *less to buy, less to install, and costs practically nothing to maintain!*

WRITE FOR THE LATEST P & K CATALOG . . . and use the planning and advisory services without obligation.

Pfaff & Kendall

84 Foundry Street
Newark 5, New Jersey

Costa Appointed to Inter-Industry Committee

The appointment of Don Costa as a regional representative of the Inter-Industry Highway Safety Committee was recently announced by M. R. Darlington, Jr., Managing Director.

Mr. Costa will assume his duties January 1, with headquarters in Montgomery, Alabama. He will be available to assist state and local dealer highway and safety chairmen, their committees and associations as part of an expanded field service program of the Committee.

Until his appointment with the Inter-Industry Committee Mr. Costa served as Executive Director and Secretary of the Alabama Safety Council, and Executive Secretary of Alabama's Safety Commission. Other offices held included Secretary, Southern Conference of State Safety Coordinators; Vice-Chairman, National Conference of State Safety Coordinators, and Public Information Officer, Alabama Department of Civil Defense.

Prior to active work in the traffic safety field, Mr. Costa was a news reporter-writer-photographer and during World War II served in military public relations. In 1952 he left newspaper work to launch Alabama's first State Safety Conference, and develop the state's Action Program for Highway Safety.

SECTION NEWS

Western Section

Colorado

The Colorado Highway Department has placed the first 100 red stop signs. Next year will initiate the most ambitious pavement striping operation in the State's history.

Denver's JACK BRUCE is studying a program that will include 50 miles of peak hour parking removal and turn restriction at 70 intersections. Denver has played host to GEORGE BULLOCK from Burbank and HOWARD ILGNER from Milwaukee and last month also saw BOB HOLMES in the mile-high city on his way to the Seattle AASHO meeting.

AASHO

The annual AASHO meeting held in Seattle early last month was well attended by ITE members—in fact, the informal ITE meeting held in SKINNY DeYOUNG'S suite taxed the supply of both space and refreshments. The traffic section of the conference heard from CHARLIE PRISK, GRANT MICKLE and CARL McMONAGLE. GRANT flew in from Australia with a stop-over in Honolulu (the flu, he said). Another world traveler GUY KELCEY, returned from a trip to Bagdad. JAKE YOUNG, JACK HENBERGER and GEORGE PARMELEE were the only Californians that we saw but LUCKY LUCKENBACH was in attendance in spirit as evidenced by the six king-sized cans of beer delivered to the DeYOUNGs. GERRY CYSEWSKI reported further on the free coffee spot mentioned in the last issue. Everything went well, so he says, until a nurse wandered by drinking a glass of tomato juice.

HERB HIGGINS, BOB DUNN, REX STILL, and SQUEGE GLAZE were on the local arrangements committee and were very much in evidence as were other WashingtonITES ELMER CLEES, E. E. LEWARCH, ED MILLS, and ROY SAWHILL.

California

Convention News

San Diego—PAUL FOWLER reports that the El Cortez Hotel has been selected as headquarters for the 1955 Western Section meeting. Chairman MEL WEST assures that every effort is being directed toward providing a balanced technical program of interest to members in all phases of traffic engineering. Remember the dates: June 22-24, 1955.

San Francisco—AL HEAD has forwarded to the National Board of Direction the following nominations for steering committee for the '56 meeting: ROSS SHOAF (Chairman), W. E. DeYOUNG, BOB GLENN, DUD STEVENS, JAY CZIZEK, GEORGE WEBB, DON BERRY, JERRY O'SHEA and BOB GRAVER. There are several possible changes in plans for the committee to consider including the desire on the part of many to have the meeting held earlier in the year. The IMSA meeting plans have changed and their '56 meeting is to be held in Denver. GERRY ROTHWEILER has been named general chairman of that meeting.

Los Angeles—The second Los Angeles Area dinner meeting was held October 27th at the Los Angeles Police Academy. Fifty-three members and friends attended. LLOYD BRAFF reported on the Kansas City meeting and GUY McDONALD on the Governor's Safety Conference.

HUGH GILMAN of the Los Angeles Traffic Department is confined to the Wadsworth Hospital. He is down to 103 pounds. LAMAR GRADNER has moved over from the Street and Parkway Division to Senior Traffic Engineer in Los Angeles.

JOE KAPLAN, Manager of the Greater Los Angeles Safety Council, has been named to the National Safety Council Board of Direction for the third successive year. He is also Vice-Chairman of the Conference of Local Safety Organizations, Chairman of the Public Safety Education Committee and Vice-President of the Association of Safety Council Executives.

MARGARET SAVAGE in addition to taking care of that nine-months-old boy has a traffic assignment in Riverside for Quinton Engineers, Ltd. Quinton is considering increasing its Traffic Engineering Staff.

Oregon

LEE KIES has lived through the first two weeks of "scramble" in Eugene. They are operating on a 55-second cycle with an 8-second walk; carrying 10,000 VPD on the main street and 5,000 VPD on the side street with as high as 60% turns in peak hours.

The Oregon State Highway Commission has approved the use of a white centerline on all State Highways, which means that Pacific Coast motorists will now follow a dashed white centerline all the way from San Diego to Vancouver, B. C.

State and City Engineers from Oregon, Washington, Idaho and Montana attended the Highway Capacity School conducted by the Bureau of Public Roads in Portland during the week of October 25th. In attendance were Oregon Area Members J. AL HEAD, CARLTON ROBINSON, DON BERGSTROM and DAVE SCHOPPERT; and Washington Area men—BOB DUNN, BOB HANSEN, E. E. LEWARCH, DICK LONG and Y. Kosai.

J. AL HEAD hosted fourteen couples at his home in Salem, October 5th. Everyone enjoyed a delicious fried chicken a la Dutch and an evening of cards and

shuffleboard. The occasion—a visit by WesternITE Ambassadors without portfolio, Mr. and Mrs. W. E. DeYOUNG.

ITE Members present at the Washington Governor's Safety Conference and who participated in the discussion were as follows: H. C. HIGGINS, C. K. GLAZE, R. G. STILL, J. L. CHAFFEE, J. K. MLADINOV, B. R. CULVER, M. R. MITCHELL, G. R. CYSEWSKI, W. A. STANCER, E. A. CLEES, Y. KOSAI, W. R. CURRY, R. R. LONG, J. A. GALLAGHER, R. E. DUNN, R. H. WARR, E. E. LEWARCH, R. J. HANSEN, R. B. SAWHILL, and W. O. KINGMAN.

Around and About

The City of Cheyenne is experiencing some pains in the trial of the scramble system. The new system was met with mixed reactions but the general feeling is favorable. . . . BOB O'CONNELL is still in the market for an assistant with electrical training. . . . SAM TAYLOR'S son, who was stricken with polio last August, is well on his way to recovery at Los Amegos Rehabilitation Center in Los Angeles. . . . BRUNO DENTINO has taken over as F.A.S. and City Co-op Engineer in District 1, California, and JAMES ANDERSON has moved from District 7 to fill BRUNO'S position as Traffic Engineer of District 1 in Eureka. There is another move for BRUNO in the wind. . . . GUS JAMART, DeLeuw and Cather representative in San Francisco, was in Portland on a possible off-street parking program. . . . DOUG CARMODY who took over as T.E. in Modesto also wears the hat of Director of the Parking Authority.

JACK FAUSTMAN was in Beverley Hills recently on a consulting job. DICK WILSON has nearly 100% ITE'S in District 10—only one more applicant for the Board to consider. EARLE TAYLOR is working on plans for extending the Blackstone Avenue System to the south in Fresno. LYNN STEWART has just returned from an American Municipal Association meeting in Philadelphia. CHUCK HALEY is planning on revamping the signal system in downtown Phoenix.

Trivia

One of the standard questions used in the Oregon Driver's License Test is an identification of signs by silhouette. Everything is fine until the embryo driver takes his car out of the parking lot past the octagonal "exit" sign.

Our spy reports that AL MATHEWS and BILL KINGMAN were picked up by the Wenatchee police as they were sneaking down a back alley trying to avoid a road-block. It turned out to be a civil defense exercise.

A new 500-car garage in downtown Salt Lake City is giving SAM TAYLOR lots of trouble. He has set up a five-lane arrangement with the fifth lane for left turns. All this and still allow curb parking. Oh, those Salt Lake City streets!

PAUL WAGNER and DICK GRAVES have worked out some fine channelization for U. S. 101 through Santa Maria. DICK is a new applicant for ITE membership. District 5 has turned in several ITE applications in recent months including JOHN W. McDONALD whose membership was approved at the last Board Meeting.

The Norwalk section of the Santa Ana Freeway in Southern California has been opened to traffic completing this route from the four-level structure to the outskirts of Santa Ana.

A SURE SIGN . . . OF EFFICIENT TRAFFIC CONTROL

Signs by MIRO-FLEX

Select safety and traffic control signs from America's finest complete sign line. Make your choice from either plain embossed or reflectorized styles. All MIRO-FLEX signs are embossed to not less than 0.100 of an inch and are finished in highest-grade enamels baked in thermostatically-controlled ovens.

Stop signs are available in either black on yellow or white on red. Reflectorized types may be had with either glass or plastic buttons...reflective sheeting or beaded background. When you consider all the features, you know that MIRO-FLEX signs are *the most readable, strongest and longest-lastings signs available.*

See your Miro-Flex Sign representative or write for complete catalog and prices.

THE MIRO-FLEX CO., INC.
1824 EAST SECOND WICHITA, KANSAS

Meetings

ED HALL has called a meeting of the Engineering Steering Committee to plan a program for the '55 California Governor's Traffic Conference. . . . GEORGE PARMELEE announces that the next L. A. Area Meeting will be held early in January. . . . The ITTE Highway Conference in Berkeley is scheduled for February 2, 3 and 4. . . . The San Francisco Area will meet in Portland on January 14th with Chairman DAVE SCHOPPERT in charge of the program and DON BERGSTROM in charge of arrangements.

President AL HEAD has appointed the nominating committee for next year's slate of officers. The members, drawn from the list of past officers, are: JOE HAVENNER, JIM READING, FRED FOWLER, HERB HIGGINS, and DON BERRY (Chairman).

The Washington Area meeting held in Olympia on November 17th was attended by 20 WesternITE's and 30 guests. Principal among the topics of conversation was the continued participation of the Section in the Northwest Traffic Engineering Conference.

With this issue your Secretary-Treasurer regretfully announces his resignation. A new position with the Automotive Safety Foundation requires leaving the Western Section and the many joys (and sorrows) of a Section Officer. The remaining officers have asked BOB DUNN, Assistant Traffic Engineer of Washington, to fill in as Secretary-Treasurer pro tem until the June election. Congratulations, BOB, and best wishes.

C. C. ROBINSON
Secretary-Treasurer

Southern Section

The Nomination Committee, appointed by President PAUL RISTROPH and consisting of WILLIAM H. MANN, Chairman, WORTHAM W. DIBBLE, JOHN P. MILLS, KENNETH M. KING, and ROBERT N. GRUNOW, has submitted the following nominations for the 1955 officers of the Southern Section:

President — KARL A. BEVINS, Atlanta, Ga.

Vice-President—JOHN T. HANNA, Richmond, Va.

Secretary - Treasurer — ARTHUR M. WHITE, Jackson, Miss.

Additional nominations must be presented prior to February 1, 1955, to be eligible for election at the Annual Meeting, scheduled for the latter part of February.

This will advise that DICK WILCOX has paid his recent football bet debt to JOHN P. MILLS, JR.

A luncheon meeting of the Southern Section, ITE, is being arranged in connection with the Southern Safety Conference to be held in New Orleans, February 28 - March 1, 1955. An outstanding member of this Section will receive the annual award which will be made this year for the first time.

There are now 41 members and 2 affiliates in the Southern Section, ITE.

JOHN T. HANNA
Secretary-Treasurer

It was announced that BILL McDANIEL, formerly PAUL RICE'S assistant in Evansville, is now the City Traffic Engineer of Owensboro, Kentucky.

JOHN E. BAERWALD
SecretaryTreasurer

Sustaining Organizations

In accordance with Art. XI of the By-Laws of the ITE, the following is the Sustaining Organization Roster for the year 1955.

A'G'A DIVISION OF ELASTIC STOP NUT CORPORATION OF AMERICA
1027 Newark Avenue
Elizabeth 3, New Jersey
Attn. Mr. Irving J. Mack
Sustaining Organization Representative

AMERICAN TRANSIT ASSOCIATION
292 Madison Avenue
New York 17, New York
Attn. Mr. George W. Anderson
Sustaining Organization Representative

AUTOMATIC SIGNAL DIVISION, EASTERN INDUSTRIES, INC.
Regent Street
East Norwalk, Connecticut
Attn. Mr. Paul L. Green
Sustaining Organization Representative

CALIFORNIA METAL ENAMELING COMPANY
6904 East Slauson Avenue
Los Angeles 22, California
Attn. Mr. J. T. Penton
Sustaining Organization Representative

CROUSE-HINDS COMPANY
Wolf & Seventh North Street
Syracuse, New York
Attn. Mr. Kenneth W. Mackall
Sustaining Organization Representative

GENERAL ELECTRIC COMPANY
920 Western Avenue
Lynn, Massachusetts
Attn. Mr. D. T. Carter
Sustaining Organization Representative

THE GROTE MANUFACTURING COMPANY, INC.
Bellevue
Kentucky
Attn. Mr. W. E. Miles
Sustaining Organization Representative

LYLE SIGNS, INC.
2720 University Avenue, S. E.
Minneapolis, Minnesota
Attn. Mr. R. H. Bjorklund
Sustaining Organization Representative

MAGEE-HALE PARK-O-METER COMPANY
Commerce Exchange Building
Oklahoma City 2, Oklahoma
Attn. Mr. G. A. Hale
Sustaining Organization Representative

THE MARBELITE COMPANY, INC.
27 Warren Street
New York 7, New York
Attn. Mr. William E. Lenz
Sustaining Organization Representative

MINNESOTA MINING & MANUFACTURING COMPANY
900 Fauquier Avenue
St. Paul 6, Minnesota
Attn. Mr. Donald O. Opstad
Sustaining Organization Representative

MIRO-FLEX COMPANY, INC.
1824 East Second Street
Wichita, Kansas
Attn. Mr. H. N. Carver
Sustaining Organization Representative

PORTABLE TRAFFIC SIGNALS, INC.
146 West 21st Street
Los Angeles 7, California
Attn. Mr. W. W. Taylor
Sustaining Organization Representative

PRISMO SAFETY CORPORATION
Huntingdon
Pennsylvania
Attn. Mr. John C. Horn
Sustaining Organization Representative

REFLEXITE CORPORATION
114 Manhattan Street
Stamford, Connecticut
Attn. Mr. W. Burke Smith
Sustaining Organization Representative

REVERE CORPORATION OF AMERICA
Wallingford
Connecticut
Attn. Mr. Walter K. Davies
Sustaining Organization Representative

STANDARD SIGN AND SIGNAL COMPANY
511 First Avenue
Dallas, Texas
Attn. Mr. Lynn Cox
Sustaining Organization Representative

THE STREETER-AMET COMPANY
4101 North Ravenswood Avenue
Chicago 13, Illinois
Attn. Mr. George F. Graham
Sustaining Organization Representative

TRAFFIC AND STREET SIGN COMPANY
84 Foundry Street
Newark 5, New Jersey
Attn. Mr. William H. Spurgeon
Sustaining Organization Representative

TUTHILL SPRING COMPANY
760 Polk Street
Chicago 7, Illinois
Attn. Mr. H. T. Moore
Sustaining Organization Representative

UNION METAL MANUFACTURING COMPANY
1432 Maple Avenue, N. E.
Canton 5, Ohio
Attn. Mr. W. A. Porterfield
Sustaining Organization Representative

U. S. PORCELAIN ENAMEL COMPANY
4635 East 52nd Drive
Los Angeles 22, California
Attn. Mr. J. L. Hodgkinson
Sustaining Organization Representative

WALD INDUSTRIES, INC.
301 Penn Street
Huntingdon, Pennsylvania
Attn. Mr. John R. Wald, Jr.
Sustaining Organization Representative

The Accident that *DIDN'T* Happen!

A dark, rain-swept night . . . a sharp curve—a side-swiped warning sign twisted dangerously away from oncoming traffic. Add a fast-moving car to this combination, and you have everything needed for a tragic accident. But this accident *didn't* happen!

Why? Because in this case, the vital warning sign was faced with Wide-Angle Flat-Top "Scotchlite" Reflective Sheeting—the only sign material that shows *true color*, *true shape*, and *true legend* with the same accuracy at night as it does by day . . . in foul weather as well as fair . . . *even when accidental damage or vandalism changes the angle of the face to the roadway.*

Wide-Angle Flat-Top "Scotchlite" Reflective Sheeting shows no significant loss of brightness even under heavy rain conditions; will continue to reflect efficiently even when turned or bent to extreme angles.

Add to these reasons the fact that it is the easiest of all sign materials to maintain. You'll quickly see why so many traffic and maintenance engineers standardize on Wide-Angle Flat-Top "Scotchlite" Reflective Sheeting for their road systems.

We'll be glad to send complete information without cost or obligation. Just write to Dept. AC-25, Minnesota Mining and Mfg. Co., St. Paul 6, Minn.

For true shape ◇ . . . true color ◇ . . . and true legend ↱ . . . by night ◈ as well as by day ↱

REG. U.S. PAT. OFF.

SCOTCHLITE

BRAND

REFLECTIVE SHEETING

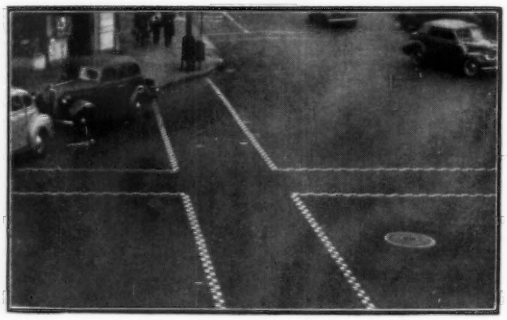
The term "Scotchlite" is a registered trademark of Minnesota Mining and Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Ave., New York 17, N.Y. In Canada: London, Ontario, Can.

3M

SALES AGENTS!

HERE COULD BE AN EXCELLENT ADDITION TO YOUR LINE OF TRAFFIC SUPPLIES

Our expanding sales policy opens a few territories for reputable firms or individuals who sell to municipalities.



Product is well-known, permanent-type, thermoplastic TRAFFIC MARKER used to form lane lines, crosswalks, and similar pavement marking. Low in cost, easily installed, prompt shipments. Over 20 years favorable acceptance by city and state traffic officials.
In writing, please state area regularly covered, other lines handled, and name of your bank.

ARMOR FLEX
6969 Amherst Avenue St. Louis 5, Mo.

(City Officials — Clip and mail to a friend who might be interested)

Yearbook Changes

BOLLONG, J. W. Arch (Member)
3032 W. 65th Street, Seattle 7, Washington.
COMPTON, O. Glenn (Associate)
District Traffic Engineer, California Division of Highways, P. O. Box 847, Bishop, California.
DRAKE, Gerard L. (Junior)
Associate Traffic Engineer, Wilbur Smith & Associates. SEND MAIL: Old Limekiln Road, Northford, Connecticut.
EVANS, H. W. (Associate)
Traffic Engineer, Pennsylvania Department of Highways. SEND MAIL: 2222 North Fourth Street, Harrisburg, Pennsylvania.
GOTTSCHALK, Walter D. (Member)
Traffic Engineer, Miami Fire Equipment Company. SEND MAIL: 7802 S. W. 54 Ct. S. Miami, Florida.
HAMMOND, Harold F. (Member)
Executive Vice President, Transportation Association of America, 1001 Connecticut Avenue, N.W., Washington 6, D.C.
LaFORNARA Leonard N. (Junior)
743 Oakford Drive, Los Angeles 22, California.
MANCINI, Philip S. (Associate)
State Director, 245 State Office Building, Rhode Island Dept. of Public Works, Providence, Rhode Island.
McGRATH, William R. (Junior)
Director of Traffic and Parking, Hall of Records, 200 Orange Street, New Haven, Conecticut.
McREYNOLDS, Marshall B. (Associate)
Vice President and General Manager, Traffic Engineers Supply Corp., 1835 West Broad Street, Richmond 20, Virginia.
MOHR, Eric A. (Junior)
Associate Transportation Engineer, California Public Utilities Commission, State Building, Civic Center, San Francisco 2, California.
ONG, Joe R. (Member)
Consulting Transportation Engineer, 1119 5th-3rd Bank Building, Cincinnati 2, Ohio.
SUST, Jose (Associate)
Professor of Streets and Highways, University of Havana. SEND MAIL: Calle E #309, Vedado, Havana, Cuba.
TREBLE, G. W. (Associate)
Traffic Engineer, New York State Department of Public Works. SEND MAIL: 11 Robert Street, Harrisburg, New York.
VANDERSTEMPEL, Theodore M. (Member)
City Traffic Engineer, P. O. Box 15, City Hall, Pontiac, Michigan.
WALBERT, Thomas P. (Member)
Associate Traffic Engineer, Wilbur Smith & Associates, 265 Church Street, New Haven, Connecticut.
WILEY, Thomas A. (Associate)
DeLeuw, Cather & Company, 150 North Wacker Drive, Chicago, Illinois.
WINFREY, Robley (Member)
Chief, Training and Education, Bureau of Public Roads, Washington, D. C. SEND MAIL: 3131 N. Piedmont Street, Arlington, Virginia.

PUT CANCER ON THE DEFENSIVE

together we can strike back

Give to

AMERICAN CANCER SOCIETY

Truck Insurance Hearings to be Held in New York

The New York Public Service Commission has announced the start of an investigation to determine whether its minimum requirements as to insurance carried by truck owners should be increased. The present minimum requirement is $10/20/5000. The first formal phase of the study is scheduled for 10:00 A.M., Thursday, January 6, 1955, when Examiner Morris A. Goldfarb will hold a public hearing at the Commission's Albany office at 55 Elk Street.

* * *

Wow!

A Tennessee hillbilly had been calling on his girl for almost a year, when pappy finally cornered him one night and asked: "You been seeing Nellie for nigh onto a year. What are your intentions, honorable or dishonorable?" The hillbilly's eyes sparkled: "You mean I got a choice?"

ON THE SHELF

Compiled by
Mrs. Kathryn Cassidy, Librarian
Yale Bureau of Highway Traffic

The publications herewith listed are not available for distribution by the Bureau or the Institute. Inquiries should be directed to the agency listed as publishing the material.

U. S. Federal Civil Defense Administration.

Utilization and Control of Streets and Highways in Civil Defense Emergencies. (Technical Manual 13-1.) Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 15c. 1953.

One in a series of technical manuals issued by the Administration. It is intended for civil defense officials and others and describes the problems involved in keeping selected urban streets and rural highways free from serious congestion in civil defense emergencies.

(Continued on page 207)

INSTITUTE OF TRAFFIC ENGINEERS
New Members and Transfers

Elected by Board of Direction January 14, 1955.

TRANSFERS

BARRY, Donald William (Associate)
City Traffic Engineer
City of Fort Wayne
City Hall, Fort Wayne, Indiana

BOOTH, James William, Jr. (Associate)
Assistant Director
Bureau of Plans and Surveys
Department of Traffic Engineering
Baltimore, Maryland

BOUMAN, Martin J. (Associate)
Associate City Traffic Engineer
City of San Diego
San Diego, California

CAMPBELL, Bruce (Associate)
Director of Highway Safety
Massachusetts Safety Council
31 State Street
Boston 9, Massachusetts

CLIFFORD, Eugene James (Associate)
Traffic Engineer
Montgomery County
Maryland Department of Public Works
Rockville, Maryland

COMISKEY, John Howard, Jr. (Associate)
Traffic Engineer II
Bureau of Traffic Engineering
Philadelphia, Pennsylvania

CZIZEK, Jay Anthony (Member)
City Traffic Engineer
Oakland, California

GARDNER, Lamar Wood (Member)
Senior Traffic Engineer
Traffic Department
Room 1000, City Hall
Los Angeles 12, California

GREER, Maurice V. (Member)
Supervising Traffic Engineer
Texas Highway Department
State Highway Building
Austin 14, Texas

HALL, Edward Masser (Associate)
Traffic Engineer
Road Department
San Diego, California

HEROY, Frank M. (Associate)
Assistant Traffic Engineer
Department of Streets
Div. of Traffic Engineering
City Hall
New Orleans, Louisiana

JORDAN, Fenton Garnett, Jr. (Member)
Traffic Engineer
Dept. of Public Works, City Hall
Norfolk, Virginia

LEE, J. Duval (Associate)
Traffic and Planning Engineer
City of Lynchburg
Lynchburg, Virginia

MacDONALD, Bruce Briggs (Associate)
Traffic Engineer II
The Port of New York Authority
111 Eighth Avenue
New York 11, New York

MAIER, Eugene (Member)
Director
Department of Traffic & Transportation
City Hall
Houston, Texas

McREYNOLDS, Marshall Byron (Associate)
Vice President & General Manager
Traffic Engineers Supply Corporation
1835 West Broad Street
Richmond, Virginia

MILLER, William J., Jr. (Member)
Traffic and Planning Engineer
Delaware State Highway Department
Dover, Delaware

MURPHY, James P. (Member)
Consulting Engineer
Partner—Crawford, Murphy & Tilly
755 South Grand Avenue West
Springfield, Illinois

STANFORD, Malcolm Richard (Associate)
Associate Civil Engineer
Los Angeles County Road Department
Traffic Control Research and Operations
Los Angeles, California

VOORHEES, Alan Manners (Associate)
Traffic Planning Engineer
Automotive Safety Foundation
200 Ring Building
1200—18th Street, N. W.
Washington, D. C.

YOUNG, Thomas Eldridge (Associate)
Assistant Engineer — Traffic
Division of Traffic Engineering
City of Cincinnati
Cincinnati, Ohio

NEW MEMBERS

AVERY, Eugene V. (Junior)
City Traffic Engineer
City Hall
Saint Paul, Minnesota

BOULDING, Ernest Arthur, Jr., (Junior)
Senior Traffic Engineer
Bureau of Traffic Safety
Trenton, New Jersey

BOX, Paul Cranston (Junior)
Street Lighting Engineer
Kansas City Traffic Department
Kansas City, Missouri

BROWN, Richard E. (Junior)
Junior Traffic Engineer
City of Cincinnati
Cincinnati, Ohio

BUXTON, Charles Franklin (Associate)
Assistant Traffic Engineer
Traffic Operations Section
Planning and Research Division
Colorado Department of Highways
Denver, Colorado

CLEARWATER, Louis Laird (Junior)
Assistant Highway Engineer
Division of Highways
6412 Cleo Street
San Diego 15, California

COLEMAN, Robert R. (Associate)
Assistant Traffic Engineer
Pennsylvania Department of Highways
Harrisburg, Pennsylvania

CONKLIN, Robert Dan (Junior)
Traffic Investigator
Oregon State Highway Department
Traffic Engineering Division
Salem, Oregon

CONRADT, Robert (Junior)
Assistant Traffic and Safety Director
New Mexico State Highway Dept.
Santa Fe, New Mexico

DESJARDINS, Raymond Joseph (Junior)
Planning Engineer
Metropolitan Toronto Planning Board
City Hall Annex, 465 Bay Street
Toronto, Ontario, Canada

DIERSTEIN, Arthur Lewis (Member)
Engineer of Traffic, District 3
Illinois Division of Highways
Ottawa, Illinois

DODGE, Eric Douglass (Junior)
Transportation Analyst
Knappen-Tippets-Abbett-McCarthy
New York City, New York

DUGAN, Dale Edwin (Junior)
Civil Engineer II
Highway Planning Department
State Highway Commission of Kansas
Topeka, Kansas

GARDNER, John W., Jr. (Junior)
Junior Civil Engineer in Traffic Engineering
Department of Public Works
Division of Highways, District X
Stockton, California

GONZALEZ-NOVO, Braulio E. (Associate)
Chief Engineer of City Planning Division
Havana, Cuba

GRAVES, Richard Madison (Associate)
Assistant Highway Engineer
Department of Public Works
Division of Highways, District 5
San Luis Obispo, California

HUGET, Howard Walter (Junior)
Office Engineer
Multnomah County Road Department
2115 S. E. Morrison Street
Portland, Oregon

KANZ, Anthony Clifford (Junior)
Traffic Control Engineer I
City of Milwaukee
Milwaukee 16, Wisconsin

LAPIN, Howard Sidney (Junior)
Research Associate
Institute of Urban Studies
University of Pennsylvania
Philadelphia, Pennsylvania

LINSCOTT, Philip Malcolm (Associate)
Traffic Engineer
DeLeuw, Cather & Company
150 N. Wacker Drive
Chicago 6, Illinois

MATTHEWS, Roy W. (Associate)
Assistant Traffic Engineer
California Division of Highways
Sacramento, California

MAYER, Howard Charles (Junior)
Lighting and Traffic Control Specialist
General Electric Company
570 Lexington Avenue
New York City, New York

MEYER, James W. (Associate)
Chief, Traffic Engineering Division
City Hall
Berkeley, California

MUELLER, Arthur Paul (Associate)
Assistant District Traffic Engineer
Illinois Division of Highways
819 Depot Avenue
Dixon, Illinois

NOWELL, John Turner (Junior)
Assistant Traffic and Planning Engineer
Clarkeson Engineering Co., Inc.
Boston, Massachusetts

PENDER, Michael Roger (Junior)
Engineer on Economic Surveys
Madigan-Hyland, Consulting Engineers
Long Island City, New York

ROBBINS, Donald Oliver (Junior)
Junior Civil Engineer
California Division of Highways
San Diego 4, California

SCHROEDER, Robert Louis (Junior)
Traffic Investigator
Oregon State Highway Department
Salem, Oregon

SCHROEDER, Walter R. (Junior)
Transportation Planning Engineer
City of Stockton, City Hall
Stockton 2, California

SIMMONS, Albert Edward (Member)
Assistant District Engineer
California Division of Highways
150 Oak Street
San Francisco, California

SIMMONS, Cecil Lee (Associate)
Assistant Traffic Engineer
City of Grand Rapids
Grand Rapids, Michigan

SMITH, Eugene A. (Associate)
Traffic Engineer
DeLeuw, Cather & Company
Chicago, Illinois

SMITH, Kenneth Warren (Associate)
Director of Traffic
City of Alexandria
815 South Payne Street
Alexandria, Virginia

STRONG, Charles Porter (Junior)
Junior Civil Engineer
California Dept. of Public Works
Division of Highways
San Diego 15, California

TAYLOR, Seymour S. (Sam) (Associate)
City Traffic Engineer
Salt Lake City Corporation
Salt Lake City, Utah

THOMAS, Junius Leslie (Associate)
District Traffic Engineer
Department of Highways
Culpeper, Virginia

TOTH, Steve (Associate)
Senior Assistant Traffic Engineer
Department of Streets and Traffic
112 East Jefferson
Detroit 26, Michigan

WHITE, William Stewart, Jr. (Junior)
Traffic Planning Assistant
Department of Public Safety
Bureau of Traffic Engineering
Richmond, Virginia

ON THE SHELF

(Continued from page 206)

Stroudsburg, Pennsylvania. State Department of Highways. Planning and Traffic Division.

Stroudsburg Metropolitan Area Traffic Survey. The Department, 1952. Variously paged.

The data in this report were obtained from 17,899 external (roadside) interviews and 30,233 internal (downtown street) interviews. They covered an average weekday of August, 1951, and represented 47,512 vehicle trips.

Tanner, J. C.

Accidents at Rural Three-Way Junctions. Reprinted from J. Instn. Highw. Engrs., 1953, II, (11), 56-67.

Contains: The movements of vehicles involved; The types of vehicle involved; The relation between accident frequency and traffic flow.

Travelers Insurance Companies.

Who . . . me?; 1953 Book of Street and Highway Accident Data. The Companies, Hartford, Connecticut, 1953. 28 pp., pamphlet.

Nineteenth edition of a series of highway safety booklets published in an effort to help prevent traffic accidents with facts about accidents.

(Continued on page 208)

ON THE SHELF

(Continued from page 207)

Showalter, Thelma J.

Parking Meters in Pennsylvania's Larger Municipalities and First Class Townships. The Pennsylvania Department of Internal Affairs. 1953. 9 pp.

Contains: Number of meters; Make of meter; Annual total revenue, 1949, 1950, 1951; Parking meter receipts per capita, 1951; Parking meter receipts per meter, 1951.

Smeed, R. J.

The International Comparison of Accident Rates. Reprinted from International Road Safety and Traffic Review, Vol. 1, No. 1, January, 1953. Published by the World Touring and Automobile Organization (O.T.A.), 31 Belgrave Square, London, S. W. 1, England.

In a previous report it was shown that the frequency of road fatalities in a number of countries was nearly always given very roughly by the formula $D = 0.0003(NP^2)^{1/3}$, where D represents the annual number of fatalities N the motor vehicle registrations, and P the population. This report presents the conclusion that the formula does provide a better method than any other at present available; that in about 70 per cent of the cases considered the error is not more than 30 per cent.

Starks, H. J. H.

The Braking Performance of Motor Vehicles and Brake Testing. Road Research Laboratory, Department of Scientific and Industrial Research (Road Research Technical Paper No. 26). London: Her Majesty's Stationery Office, 1953. Two shillings net.

This paper summarized a group of investigations carried out by the Road Research Laboratory on the braking performance of vehicles and on the selection and operation of equipment for testing vehicle brakes.

Urban Land Institute.

Shopping Centers: Planning Principles and Tested Policies. Technical Bulletin No. 20. Urban Land Institute, 1737 K. St., N. W., Washington 6, D. C., July, 1953. 92 pp. $6.00.

This study is the fourth Technical bulletin on shopping centers. Contains: Preliminaries; planning the site; designing the center; operating the center; shopping centers illustrated; selected shopping centers listed.

Utah University. College of Engineering. Department of Civil Engineering.

Proceedings of the Fourteenth Annual Highway Engineering Conference. Bulletin No. 61 of the Utah Engineering Experiment Station, Department of Civil Engineering, Vol. 43, No. 6, June, 1953.

Contains articles on highway construction, highway finance and design.

Wichita, Kansas. City Plan Commission.

Master Plan 1953; Pattern for Thoroughfares—U. S. 54 West. The Commission, 1953. 18 pp.

A vehicle origin and destination study of traffic movement, with the cooperation of the State Highway Department, was taken for the entire urban area.

"If we have to construct a network of motorways, we must do it quickly to get the best out of a new technique, you must always act rapidly. If the work is spread over too many years, you do not obtain the desired results and all the effort is wasted."

M. Anseele
Belgian Minister of Communications

PRESCRIPTION FOR BETTER TRAFFIC CONTROL

Traffic Control, parking, and parking enforcement can become an efficient and economical operation in your city —when you install the dependable KARPARK TWIN-O-MATIC or UNIMATIC parking meters. They're superbly built by the famous HERSCHEDE HALL CLOCK COMPANY, makers of America's finest clocks.

FLEXIBLE—
tailor-made to suit your own requirements for coin combinations and time intervals.

EFFICIENT—
simple to operate, highly visible for easy enforcement, ruggedly built for accurate timing in any kind of weather.

ECONOMICAL—
provide substantial savings in law enforcement, maintenance, and replacement.

KARPARK TWIN-O-MATIC
Times two cars with one installation. Adjusts to any desired change in regulations. Reduces maintenance and collection costs to unheard-of lows. Ruggedly built for long life.

KARPARK UNIMATIC
For single car parking. Can be used for an entire system of single car parking, or, when used with Twin-O-Matic, can be placed at street ends and special single locations.

Available with
Automatic Dump System, Sealable Boxes, or Open Top Boxes.

For complete data, write to

THE KARPARK CORPORATION
CINCINNATI 6, OHIO

In Canada TWIN METER CO. OF CANADA, LTD. 5002 Park Avenue, Montreal 8, Quebec

HOWARD F. ILGNER

(Continued from page 196)

and a position with the consulting engineer firm of Vaughan, Meyer & Sweet on the Milwaukee illumination project.

A member of the Institute of Traffic Engineers for nearly 23 years, Mr. Ilgner served on its Board of Directors from 1936-1938 and many of its committees. At the time of his death he was an ITE representative on the joint committee on Uniform Traffic Control Devices and on the Illuminating Engineering Society joint committee on Street and Highway Lighting. He was a member of the Institute's Technical Committee on Street and Highway Lighting, the IES committee on Sports Lighting, the Highway Research Board's committees on Night Visibility and Origin and Destination Surveys, sub-committee IV of the National Committee on Urban Transportation and a half dozen or more Milwaukee Civic Committees including the Milwaukee Parking Commission, Milwaukee Safety Commission.

Mr. Ilgner was a member of the Salem Evangelical Lutheran Church.

He is survived by his wife, the former Gertrude Schomann, and two brothers, Oscar H. Ilgner, of Milwaukee, and Gerhard H. Ilgner of Freeport, N. Y.

Last fall the monthly magazine of the Milwaukee Engineering Society of which he was long a member featured Mr. Ilgner with a personality sketch as its "Engineer of the Month." This past December we scheduled a reproduction of that tribute for this issue. Under the circumstances of Mr. Ilgner's passing, our first inclination was to omit it; then for the benefit of his legion of friends outside of Milwaukee, we decided to run it posthumously.

ILGNER CITED BY MAGAZINE

The Engineers Society of Milwaukee, an organization of near 1200 Wisconsin engineers, publishes a monthly magazine MILWAUKEE ENGINEERING. One of its regular features is a biographical sketch of a prominent engineer under the heading of "Engineer of the Month." This feature for September 1954 was devoted to one of the ITE's own: Howard F. Ilgner. The sketch is reproduced in full.

ENGINEER OF THE MONTH

Avocation: a subordinate or occasional occupation; diversion.

Vocation: calling, occupation.

Happy is that man to whom the two are synonymous; This is the story of a man who found that happiness as an engineer for the City of Milwaukee.

Howard F. Ilgner was born here in Milwaukee on Sept. 19, 1889. His roots grew deep in Milwaukee soil and tradition as he studied his way through the Maryland Avenue Grade and East Division High School. His father was an electrical repairman of no mean skill, and when Howard showed aptitude in high school mathematics his teacher urged him to study engineering. Four years in the University of Wisconsin engineering school earned him his degree in electrical engineering.

After graduation in 1911, Howard spent two years as a student engineer with the General Electric Co. at Schenectady, N. Y. (1911-1912), and the following two years as electrical distribution and lighting engineer for the Eastern Michigan Power Co. at Jackson, Mich. Milwaukee called him back in 1914, however, and he spent the next two years as illuminating and safety engineer with the consulting firm of Vaughn, Meyer and Sweet. (You may remember Frank Vaughn as one of the early active ESM members.)

In 1916 our Engineer of the Month was offered the position of illuminating engineer, City of Milwaukee, and he accepted without hesitation. From 1923 to 1933 he held the title of superintendent and chief engineer, bureau of electrical service, then became traffic engineer and superintendent of electrical services, the position he now enjoys (we use the word intentionally).

Howard's six-decade knowledge of Milwaukee is a perfect background for his position as traffic engineer. He shows you colored planning maps on his office wall with the enthusiasm of a Cadillac salesman. He points out that division of Milwaukee by three rivers poses special special problems, forcing traffic from four or five streets across one bridge. And after planning for normal traffic growth under Milwaukee conditions up pop those shopping centers with up to 5,000-car parking lots. And those Milwaukee Braves—ask him to tell you what it takes to move 10,000 fan-filled cars in and out of the stadium grounds! Do you know that traffic has a lookout tower at the stadium from which the operator can observe all entrances, exits and parking lots and communicate with officers at these points?

But traffic control involves more than cold statistics—it calls for empathy, a knowledge of human nature and not a little intuition. Our driving morals lower when we are out of our own neighborhood, our viewpoint changes when we are in the role of pedestrian. Howard likes this work—his vocation is his avocation!

For a busman's holiday, Howard often drives the Milwaukee streets with Mrs. Ilgner (Gertrude D. Schomann until Dec. 15, 1917) taking down notes on his observations.

As traffic engineer, he is also chairman of the Traffic Committee of the Milwaukee Safety Commission, member of the Milwaukee Parking Commission and member of the Municipal Public Transportation Study Committee.

His technical society affiliations include the Institute of Traffic Engineers, AIEE, ESM, WSPE, American Public Works Assn., International Municipal Signal Assn., IES, Milwaukee Electrical League and the Highway Research Board, National Research Council. He is an active committee member in most of these groups. Social activities include the North Hills Country Club, Milwaukee City Club, Association of Municipal Engineers and the Wisconsin Alumni Association.

Fortunately, designing and planning of lighting and signal systems, traffic planning surveys and committee meetings don't consume all our engineer's time as he is an avid bridge enthusiast, plays golf for exercise and likes to pull on a fishing line, especially when the fish pull back,

Howard F. Ilgner is a dedicated public servant. He says: "Choose a vocation that may also become your avocation. Develop ability to get along with people. Display enthusiasm, honesty and sincerity in all contacts. Keep on top of your job!"

—Donald K. Davis

NO SMOKING
Now
EN-DUR-ALL*
SIGNS
Impervious to wind, blowing sand...heat or cold! Extremely resistant to bending, gun shot... other vandalism!
Meets all official standards!
Available in sizes, shapes and colors to meet any specification or blank for painting...
non-reflectorized or reflectorized with "Scotchlite."
* A molded, rubberized plastic material 3 times more durable than metal.
Clip this form and mail, for additional information.
SPEED LIMIT 35
EXIT
Gentlemen: Please send me complete information on "EN-DUR-ALL" Road, Street and Property Signs:
DENVER PLASTICS, INC.
15200 W. Colfax, Golden, Colo.
TE 2-55
Name
Address
City
State

Index to Advertisers

A'G'A DIVISION OF ELASTIC STOP NUT CORPORATION 180
G. M. Basford Company, New York, New York

AUTOMATIC SIGNAL DIVISION OF EASTERN INDUSTRIES, INC. 176
Remsen Advertising Agency, New Haven, Connecticut

ARMOR-FLEX COMPANY 206

DENVER PLASTICS, INC. 210
Ball & Davidson, Inc., Denver, Colorado

DUAL PARKING METER CORPORATION 178
Griswold-Eshleman Company, Cleveland, Ohio

DUNCAN PARKING METER COMPANY 193

GROTE MANUFACTURING COMPANY, INC. 197
Peek-Heekin Advertising, Cincinnati, Ohio

INTERSTATE RUBBER PRODUCTS CORPORATION 195
Walter C. Davison Company, Glendale, California

KARPARK CORPORATION 208
Smithson, Wyman & Withenbury, Inc., Cincinnati, Ohio

MINNESOTA MINING AND MANUFACTURING COMPANY 205
Batten, Barton, Durstine and Osborne, Inc., Minneapolis Minnesota

MIRO-FLEX COMPANY 203
Associated Advertising Agency, Wichita, Kansas

PFAFF AND KENDALL 201
Duncan Brooks, Inc., Mineola, New York

PRISMO SAFETY CORPORATION ..... Back Cover
Michener & O'Connor, Inc., Harrisburg, Pennsylvania

STREETER AMET COMPANY 190
Brandt Advertising Company, Chicago, Illinois

TUTHILL SPRING COMPANY 196
Burlingame-Grossman, Chicago, Illinois

UNION METAL MANUFACTURING COMPANY 175
Griswold-Eshleman Company, Cleveland, Ohio

Membership Applications

The following applications have been received since the list of applicants published last month.

APPLICATIONS FOR TRANSFER

BERGSMAN, Seymour E.
Area Engineer
Department of Streets and Traffic
112 E. Jefferson
Detroit 26, Michigan
January 13, 1955 for ASSOCIATE grade

GALLAGHER, John Laurence, Jr.
Assistant Traffic Engineer
Division of Traffic Regulation & Engineering
Room 112, Safety Building
Columbus, Ohio
January 4, 1955 for ASSOCIATE grade

GROSS, Stanford P.
Sr. Assistant Traffic Engineer
Department of Streets and Traffic
112 E. Jefferson
Detroit 26, Michigan
January 13, 1955 for ASSOCIATE grade

McGRATH, William R.
Director, Department of Traffic & Parking
200 Orange Street
New Haven, Connecticut
January 20, 1955 for ASSOCIATE grade

RAY, James Laurence
Engineer
Coverdale and Colpitts
120 Wall Street
New York, New York
January 13, 1955 for MEMBER grade

SIMM, Eugene L.
Traffic Engineer
Atlanta Traffic and Safety Council
Room 309, Walton Building
87 Walton Street, N. W.
Atlanta, Georgia
December 30, 1954 for MEMBER grade

WHEDON, Burt
Director, Dept. of Street Transportation
and City Traffic Engineer
City Hall
Omaha, Nebraska
January 24, 1955 for MEMBER grade

NEW APPLICATIONS

BOYER, William W.
Assistant Professor
Civil Engineering Department
University of Massachusetts
Amherst, Massachusetts
January 24, 1955 for ASSOCIATE grade

CLARK, Glen L.
Traffic Investigator
Oregon State Highway Department
Room 312, Oregon State Highway Building
Salem, Oregon
January 13, 1955 for JUNIOR grade

CLEARY, Thomas Mathew
Assistant Civil Engineer (Traffic)
New York Thruway Authority
Elsmere, New York
January 4, 1955 for ASSOCIATE grade

de VALENCE, Paul L.
Assistant Traffic Engineer
Ontario Department of Highways
Room 1422, Parliament Buildings
Toronto, Ontario, Canada
January 20, 1955 for ASSOCIATE grade

DIMITRE, Michael S.
Assistant Civil Engineer
Department of Traffic
City of New York
New York 38, New York
December 22, 1954 for JUNIOR grade

GALLAGHER, John Francis
Assistant District Traffic Engineer
Department of Public Works
403 Belmont Street
Worcester, Massachusetts
January 17, 1955 for JUNIOR grade

HALVERSON, James R.
Chief Traffic Engineer
State Road Commission of Utah
525 W. 13th South
Salt Lake City, Utah
December 30, 1954 for JUNIOR grade

KENT, Robert D.
Traffic Manager
Utah State Road Commission
525 W. 13th South
Salt Lake City, Utah
January 10, 1955 for MEMBER grade

LANGSNER, George
Assistant District Engineer
California Division of Highways
Los Angeles 12, California
December 28, 1954 for MEMBER grade

LELAND, Elmer John
Senior Aide Engineer
Washington State Highway Department
6th and Spokane Street
Seattle, Washington
January 13, 1955 for JUNIOR grade

MAGIN, David Robert, Jr.
Engineer II (Traffic)
Bureau of Traffic Engineering
526 S. W. Mill Street
Portland 1, Oregon
December 22, 1954 for JUNIOR grade

SCOTT, William P.
Civil Engineer I
(Traffic Operations Section)
Minnesota Highway Department
Traffic and Planning Division
1084 University Avenue
St. Paul 4, Minnesota
January 17, 1955 for JUNIOR grade

WILLIAMS, Robert Carroll, Jr.
Civil Engineer
Public Works, City Hall
Winston Salem, North Carolina
January 24, 1955 for JUNIOR grade

When You Change Your Address

. . . please notify us promptly. Your copies of **"Traffic Engineering"** will then reach you without delay and without interruption. — Traffic Engineering Magazine, Strathcona Hall, New Haven 11, Conn.

Professional Service Directory

EDWARDS, KELCEY and BECK
CONSULTING ENGINEERS

Surveys — Reports — Economic Studies — Design — Supervision
Transportation — Traffic — Parking — Terminals — Port and Harbor Works
Highways — Expressways — Grade Separations — Tunnels
Bridges — Water Supply — Management

3 William Street, Newark 2, N. J. • **250 Park Avenue, New York 17, N. Y.**

DE LEUW, CATHER & COMPANY
CONSULTING ENGINEERS

Transportation, Public Transit and Traffic Problems
Subways, Railroads, Industrial Plants
Power Plants, Grade Separations,
Expressways, Tunnels, Municipal Works

150 N. Wacker Drive, Chicago 6, Ill.
79 McAllister St., San Francisco 2, Cal.

GANNETT FLEMING CORDDRY and CARPENTER, INC.
- - - ENGINEERS - - -

CONSULTING SERVICE FOR TRAFFIC, PARKING and TRANSPORTATION PROBLEMS
City Planning — Highways — Bridges — Flood Control
Water Supply — Sewerage— Industrial Waste — Garbage Disposal
Appraisals — Investigations — Management

600 NO. 2nd STREET HARRISBURG, PA.
Pittsburgh, Pa. Scranton, Pa. Daytona Beach, Fla. Medellin, Colombia, S. A.

JENKINS, MERCHANT & NANKIVIL
Consulting Engineers

Municipal Improvements Sewerage
Power Development Water Systems
Traffic Surveys Industrial Plants
Flood Control Recreational Facilities
Airports Investigations and Reports

805 East Miller Street
Springfield, Illinois

PALMER AND BAKER, INC.
CONSULTING ENGINEERS — ARCHITECTS

Surveys — Reports — Design — Supervision — Consultation
Transportation and Traffic Problems Tunnels Bridges Highways Airports
Industrial Buildings Waterfront and Harbor Structures
Graving and Floating Dry Docks
Complete Soils, Materials and Chemical Laboratories

Mobile, Ala. **New Orleans, La.** **Harvey, La.**

PARSONS, BRINCKERHOFF HALL & MACDONALD
Engineers

Bridges, Highways, Tunnels, Airports, Subways, Harbor Works, Dams, Canals, Traffic, Parking and Transportation Reports, Power, Industrial Buildings, Housing, Sewerage and Water Supply.

51 Broadway **New York 6, N. Y.**

KNAPPEN — TIPPETTS ABBETT — McCARTHY
Engineers
Traffic, Parking and Transportation
Surveys, Economic Studies and Financial Reports

Highways, Subways, Bridges, Tunnels—Airports, Ports, Harbors, Power Developments, Water Supply, Sewerage
Planning, Reports, Design, Supervision of Construction

62 West 47th St. New York 36, N. Y.
110 Market St. San Francisco 11, Cal.

Highway Traffic Engineers, Inc.
345 Boylston Street
Brookline 46, Massachusetts
LOngwood 6-0275

MATTHEW CAREY
MUNICIPAL FINANCE CONSULTANT
Specializing in Financing
Off Street Parking Facilities

Financial Advisor in Connection with Highland Park, Royal Oak, Wyandotte, Michigan and Kankakee, Illinois Automobile Parking System Revenue Bond Issues

Box 3703 Kercheval Station
Detroit 15, Michigan

TRANSPORTATION PROBLEMS
HIGHWAYS

THE CLARKESON ENGINEERING COMPANY
INCORPORATED

285 Columbus Ave., Boston 16, Mass.
COmmonwealth 6-7720

EXPRESSWAYS **AIRPORTS**

AMMANN & WHITNEY
CONSULTING ENGINEERS

Design & Construction Supervision
Bridges, Buildings, Industrial Plants, Special Structures, Foundations, Airport Facilities, Expressways

76 Ninth Avenue, New York 11, N. Y.
724 E. Mason Street, Milwaukee 2, Wis.

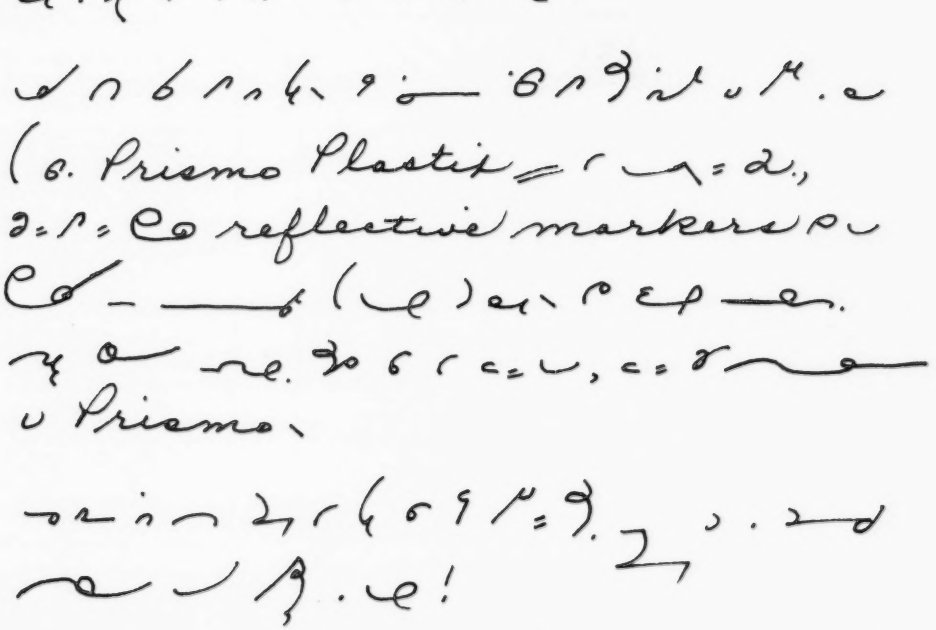
S. Herbert Taylor Frank J. Sleeper
David L. Taylor William H. Taylor

SHERMAN, TAYLOR & SLEEPER
CONSULTING ENGINEERS

501 Cooper Street, Camden 2, N. J.
EMerson 5-0555
Park & Norwod Aves., Pennsauken 8, N. J.
MErchantville 8-4848

CONFIDENTIAL

for secretaries only!



PRISMO

SAFETY CORPORATION

Huntingdon, Pennsylvania 1197

* "Dottie" is our pet name for Prismo Plastix Dots. You'll be a pet, too, for bringing the useability of Prismo to his attention.

Write today for your free copy of the new Plastix Catalog PX 53. (No shorthand, please!)